UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Office of Energy Projects

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FirstLight Hydro : Project Nos. P-1889-081 and

Generating Company : P-2485-063

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TURNERS FALLS HYDROELECTRIC PROJECT

NORTHFIELD MOUNTAIN PUMPED STORAGE PROJECT

Great Falls Discovery Center

2 Avenue A

Turners Falls, MA 01376

Thursday, January 31, 2013

The evening scoping meeting, pursuant to notice, convened at 6:15 p.m., before a Staff Panel:

KEN HOGAN, Project Coordinator, FERC
MARY GREEN, Geology and soils, FERC
RALPH NELSON, Geology and soils, FERC
MARY McCANN, Endangered species and macroinvertebrates, FERC
BRETT BATTAGLIA, Terrestrial resources, FERC
ADAM BEECO, Recreation, land use and aesthetics, FERC
ANGIE SCANGAS, Water resources, FERC
ROBERT QUIGGLE, Archaeological and cultural resources, FERC.

With: JOHN HOWARD, Director, FERC Hydro Compliance, FirstLight Power Resources, Inc.

C O M M E N T E R S

P R O C E E D I N G S

MR. HOGAN: Good evening. My name is Ken Hogan. I'm with the Federal Energy Regulatory Commission, and we're here tonight to conduct our National Environmental Policy Act Scoping Meeting for the Northfield Mountain and Turners Falls Hydroelectric Project relicensings.

I'd like to go over a couple of ground rules, if I may. We are recording the meeting for our public record; we have a court reporter here today. And so if I could, I'd like you, if you have comments that you want to have a discussion with or ask questions, if you could stand and face the podium, it really helps us maintain our record.

Also, if there are questions that are directed to other members in the audience, if you could stand when you verbalize your question or your response. Also please face the podium and the court reporter. He does a lot of lip reading. It just really helps us to maintain a better record.

AUDIENCE: Could we use your microphone?

MR. HOGAN: It's a short cord, and I'm going to -- we're going to have presentations from other folks, and I am going to expect -- 'use microphone when presenting.' It's on my list, yes. But yes. As we go through, and when FirstLight gives a presentation on the proposal, you may have some clarifying questions. That's what I'm talking

about.

But when it comes to the presentations from you folks, the stakeholders, I would like you to come up front, use the microphone and provide your presentation.

Did I cover everything?

THE REPORTER: Yes.

MR. HOGAN: Okay. I got very clear instructions. So I'd like to see a show of hands of how many people are familiar with the Federal Energy Regulatory Commission.

(Show of hands.)

MR. HOGAN: Oh, a pretty well-informed room. How many people have been to our meetings already this week?

(Show of hands.)

MR. HOGAN: Quite a few of you, all right, and how many people are familiar with the licensing process?

(Show of hands.)

AUDIENCE: Sort of, learning.

MR. HOGAN: Learning. Okay, all right. So I didn't see every hand go up, so I'm going to go through my entire spiel, okay. The format of tonight's meeting is I'll go through the licensing process. Mary's going to give a brief background on the Federal Energy Regulatory Commission; who we are and why we're here, and we'll get a presentation by FirstLight for their proposal, description

of the projects, and then Commission staff will go through all the resource areas and the resources that we have identified that may be affected by the hydroelectric projects all together.

Then FirstLight will identify what studies they're proposing to address various resource concerns, and then we're going to open up to public statements by folks who signed on to speak. We'll call names and like I said, come up here, we'll talk and we'll go through the meeting.

Then after the folks who signed up, if there are others who have decided they want to speak, we'll ask for a show of hands and open it up.

Does that sound like a plan? Okay.

Mary. It's a little crowded up here.

MS. GREEN: Hello. So FERC, or the Federal Energy Regulatory Commission, is an independent agency that regulates the interstate transmission of electricity, natural gas and oil. We have five Commissioners appointed by the President, and we have various divisions. We are under the Office of Energy Projects, Division of Hydropower Licensing.

Our hydropower jurisdiction is from the Federal Power Act. Commission authorization is required for non-federal hydro projects located on navigable waters, located on public lands of the U.S., using surplus water from a

federal dam, and located on Commerce Clause waters constructed after 1935 and connected to the grid.

MR. HOGAN: Thank you. I neglected to introduce my team, so if I could, I'll start over here with Angie.

MS. SCANGAS: Angie Scangas, water resources.

MS. McCANN: Mary McCann. I'll be working with endangered species and macroinvertebrates, mussels, and tonight I'm filling in for Mike Sears, who is sick. He was here for the rest of the week.

MR. HOGAN: For aquatic resources?

MS. McCANN: For aquatic resources, right.

MR. BEECO: I'm Adam Beeco. I'm on recreation, land use and aesthetics.

MS. GREEN: Mary Green, Geology and soils.

MR. NELSON: Ralph Nelson, Soils and geology.

MALE PARTICIPANT:

MR. BATTAGLIA: Brett Battaglia, terrestrial resources.

MR. QUIGGLE: Rob Quiggle, archaeological and cultural resources.

MR. HOGAN: So regarding the licensing process, on our handouts, we have this colorful little flow chart. This is the integrated licensing process. The blue boxes are what we call the pre-filing phase of the integrated licensing process, and the green boxes are the post-filing.

The filing is the filing of the license application. So we are currently, each box is numbered; in the bottom right-hand corner of the boxes, there's a number. We are currently in Box 4, very early in the process.

It's the Commission's NEPA scoping meeting, and the reason we have a scoping meeting is to identify the issues and concerns of the local community that will craft what we analyze in our environmental document; which in this case will be an environmental impact statement under NEPA, which is the National Environmental Policy Act.

It's your input that's really critical to identifying what we need to look at and analyze in that document. It will give us a much better product. So I really hope you'll engage with us tonight, and I'm looking forward to some good comments.

So we have the scoping meeting tonight. On March 1st is the deadline for written comments. That's your opportunity to comment on our Scoping Document 1, which is available and was passed out tonight; comments on the Applicant's pre-application document, which was the document that was filed on October 31st, providing a lot of the background and existing information regarding the projects.

You'll also have an opportunity to provide study requests, and I'm going to talk a little bit about study requests in a couple of minutes. So that deadline is March

1st, it's a very important deadline for all of you. Again, we want your input. We do a much better job with public input than, you know, just doing it from Washington, D.C. at my desk and in a vacuum.

So it's a harder job with public input, by the way, but it's a better job. So I encourage that.

Once we have the study request and the comments, FirstLight will take those study requests and the comments and evaluate what they believe are the appropriate issues that going to need to be studied and addressed. They'll prepare a proposed study plan. That document will be available, publicly available and when that document is filed, this is at Box 6.

Once that document is filed, there's a 90-day period for stakeholders such as yourselves to work with FirstLight to identify any concerns that you feel that weren't covered by the proposed study plan, work out issues on the studies. If a study wasn't included that you had requested, you get an opportunity to, you know, express to FirstLight why you feel that the studies were needed.

We call this 90 day period the informal dispute resolution process on studies. During that period, there is one required meeting that, you know, FERC will attend, and we'll have, for everybody to voice their opinions again formally at the meeting. It is a meeting held by or hosted

by FirstLight. We will not have a court reporter, but it's an opportunity that I, you know, will be present and listening.

At the end of that 90-day period, there's another opportunity for stakeholders to file written comments on that proposed study plan. This is your opportunity to say 'Hey, it doesn't cut the mustard' or 'It looks great, okay. We're really happy with what they're doing.'

That's your telling the Commission your opinions, and like I said, we really value the opinions and they do carry weight. Once the comments on the proposed study plan -- and also those comments are also provided to FirstLight, and it allows them to further revise their proposed study plan into a revised study plan. So basically we have a draft and then a final.

FirstLight will prepare a revised study plan and submit that to the Commission for approval. Once that revised study plan has been submitted to the Commission for approval, there is another comment period from the public, to let us know, you know, and this is a comment period where if you've been working with FirstLight on specific studies, and you believe that, or your understanding is that there was agreement on a methodology or what was going to be done, and then when it came in, it wasn't there and you want to let us know 'Hey, we think there's a mistake.'

That's your opportunity to tell us 'This is still an issue for us, and we would like to see it incorporated into the study plan.'

Once we have all the comments on the revised study plan, the Commission will then review all of the issues, outstanding issues, and prepare what's called a study plan determination.

That study plan determination is an order to FirstLight to implement the revised study plan as or as modified; and when I say "as modified," there could be individual studies that we tweak, based on the comments, or we could say hey, you know, we also need this additional study, all right. And again, these are all informed based on your input.

Once that determination goes out, it's a one or two year process of implementing those studies. So now we're about three years out into the process, and I don't want to waste any more of your time tonight going beyond that, if that's okay with you.

Okay, all right. Study requests. This is key for you guys who are thinking about requesting studies in the FERC licensing process. There are seven criteria that the Commission uses as a litmus test on what is an appropriate study to conduct. On the last page of this packet, those criteria are listed out.

We actually only have to address six of them, because Criterias 2 and 3 are mutually exclusive, okay. So they're listed here. Now we prepared a document last March, and this is a guide to addressing the study criteria. This is a new tool available to stakeholders, to help you prepare study requests that will meet our needs and convince FERC why a study's important.

So I highly recommend you review this. This document is the result of stakeholder input from folks all over the country who have been implementing the ILP, the Integrated Licensing Process for about the last nine years, and they said "Hey, FERC, give us some instruction on how to do this." So we did it.

So I highly recommend that you take a look through this. If you're planning to prepare a study request, follow the instructions there. There are descriptions of what we're looking for under each criteria, and then there are also examples included in here, written by FERC staff.

So with that, I'd like to turn to FirstLight for a presentation of the hydro projects and what their proposals are.

(Remark from Staff)

MR. HOGAN: Oh, I'm sorry. I've got one other thing to mention. Thank you, Mary. Sorry, I'm holding you

guys up again.

As I've indicated, this is a very public process. The Commission doesn't make any decisions behind closed doors. Everything's open. As you can tell here tonight, we have a court reporter, and it goes into our public record, and we maintain a very detailed public record.

That public record is available to anybody to review and look at. We have two services that we provide. One is e-Library, where it's a catalogue of all filings. So if you file your comment letters, it'll be catalogued and available in e-Library, and any issuance that the Commission makes will also appear in e-Library.

The other service that we provide is called e-Subscription, where you set up an account with FERC, excuse me, and when we -- you set up an account with FERC, and you enter in the docket numbers, which are the project numbers on the scoping docket, the one here, the P and the four digits, and you identify which projects you're interested in.

When we issue a document or a document is filed into that docket, you'll receive an email with a link to that document. So by following that link or by going to e-Library, you can actually open the document up and read it. It's not -- you know, so e-Library is not just the catalogue listing; you actually have access to the document.

Okay. Any questions about that?

Instructions on how to do, access e-Library or set up the e-Subscription account is in our handy-dandy guide to the public "Get Involved," on page 12, okay.

MR. HOWARD: Good evening. My name is John Howard. I'm the FirstLight Project Manager for the licensing of both Northfield Mountain and Turners Falls projects. I have about a dozen and a half slides I'm going to go through, just to kind of introduce the projects to you, and we'll go through the study proposals.

The first slide is just our website. Similar to FERC, we have a website set up at: www.northfieldrelicensing.com. You can join our mailing list. If you go on that link, you'll see we circle it right there on the left-hand side "Join Our Mailing List." So every document that we file, we'll get -- you'll get an email notification, and you can go on the website and pick up the document.

So the regional layout. The Connecticut River main stem and the gray area here are the three TransCanada projects upstream of us; Bells Falls, Wilder and Vernon Station, owned by TransCanada; and then located directly below those is the Northfield Mountain Project and the Turners Falls Project. All those FERC licenses expire at the same time, on April 30th of 2018.

So a little bit about the project layout. You can see Vernon in the Vermont section. You come downstream into the Turners Falls impoundment, the Northfield Mountain Upper Reservoir in the white block. We move on further down to the Turners Falls Dam. At the end, the power canal begins. We have Station No. 1. Station No. 1 was located at end of the original canal when it was constructed in the late 1800's. No. 1 Station went into service around 1905.

The station or the canal then was further widened and extended down to Cabot Station in 1916. Downstream of Cabot, you see the Route 116 bridge, and then down at the bottom of the page there, the riverine reach down below Cabot down to the Holyoke Dam.

So facility layout. That's the Northfield Project layout, the Upper Reservoir over on the right hand side, the intake channel to the left on the upper reservoir. The dotted line is the pressure shaft. It's a 31-foot diameter circular shaft, goes down to the underground cavern. The cavern is located about 800 feet down below the surface of the mountain, and then the dotted line out to the Connecticut River is our tailrace tunnel.

The tunnel is about 33 feet in diameter, and that's where we discharge when we're generating and that's where our intake is when we pump up to the mountain top reservoir.

So there's a little better shot of the Upper Reservoir, the main dam on the far side. So this picture is taken facing east, so Boston's in the upper portion of that. The intake channel down at the lower right-hand side, and then the dams and dikes that impound the Upper Reservoir.

Tailrace area. Left to right, flow moving north to south, and that's our intake when we're pumping, our discharge when we're generating, and you see the bulb barrier and the log plume.

AUDIENCE: Is that the area where you put all the silt?

MR. HOWARD: Yes. Just to the right-hand side of the bulb barrier is where we were originally placing that material. Turners Falls Project layout, I went into it a little bit earlier. The Turners Falls Dam on the upper right-hand side, the gatehouse, the gatehouse fish ladder, the spillway fish ladder right here outside this facility.

Move on down towards the canal to Station No. 1. Station No. 1 is about a six and a half megawatt station, five horizontal wheels, and then further on down to Cabot Station, Cabot Station is a 62 megawatt facility, six vertical units built in 1916, and then there's a fishway also associated with that facility.

A little better shot of the Turners Falls Dam. We're sitting there right over the bridge, as you know, at

the Great Falls Discovery Center. Our gatehouse, the power canal, the four basket gates on the Montague side of the Turners Falls Dam, and then on the hilllside we have three what are called tainter gates or radial arm gates.

Station No. 1, the head time coming off the main canal discharge and the flow from left to right is heading down towards Cabot Station. There's Cabot Station. Again, the Connecticut River flow moving from left to right, the discharge at Cabot, the power canal. A trash room up in the canal before the station, the spill gates and then the Cabot fish ladder, going up, a serpentine structure there on the north side of the building.

So a little bit on the background of the facilities. I'll start in the right-hand column first, the Turners Falls Project. The dam and canal was constructed in the late 1700's, Timber Trip Dam. Two facilities off the canal, the original No. 1 station, five horizontal units, and Cabot Station with its six vertical units.

The total generating capacity of the project is 67.709 megawatts. Average annual generation out of those facilities, a little over 18,000 megawatt hours a year for the number one station, and 350,000 megawatt hours a year for Cabot. Hydraulic capacities of 2,200 cfs, cubic feet per second at Station 1, and 13,700 at Cabot.

We have a min_flow requirement for the Turners

Falls Project to pass 1,433 cubic feet per second for inflow below Cabot. We also provide 400 cfs over our number one basket gate during the fish passage season, from April to June; and then 120 cfs up and through around the middle of November or when water temperatures get to about 70 degrees Centigrade.

Northfield Project on the left-hand column, Unit 4 went into commercial operation in November of 1972. The other three units, 1, 2 and 3 went into service in 1973. They're reversible pump turbines; they rotate clockwise when they're generating and counterclockwise when they're pumping.

Station capacity is a little over 1,110 megawatts. Average annual generation for those years was a little over a million megawatt hours, and hydraulic capacity when the station is at full output is 20,000 cubic feet per second, and when it's pumping, 15,200. And as you can see in the bottom row, both licenses expire on April 30th, 2018.

Yes ma'am?

MS. CHANG: So that doesn't include the upgraded turbine?

MR. HOWARD: Yes, it does. The 1,119.2, two units at 270 megawatts approximately, and then two units at 292. Yes.

MR. McCOOL: So basically what you can do with

the mountain is ten times what you might see going to the Cabot area?

MR. HOGAN: If we could, because we are trying to maintain a good public record --

MR. McCOOL: It's just a huge project. I mean it's --

MR. HOGAN: Wait, wait, wait. We're trying to maintain a good public record. If you want to speak, I encourage questions and comments, and I'm not trying to discourage that in any way.

I'd like you to stand up. Our court reporter is having difficulty, and I'd also like you to state your name before speaking so we can attribute who the comment came from, okay? So there was a, the first question regarding the megawatt upgrade? Who asked that question? Name please?

MS. CHANG: Claire, C-L-A-I-R-E, Chang, C-H-A-N-G.

MR. HOGAN: Claire Chang, and sir?

MR. McCOOL: Donald McCool, M-c-C-O-O-L.

MR. HOGAN: Thank you.

MR. HOWARD: All right. Don, did you have another question that I didn't answer?

MS. McCOOL: I'm very impressed with the size of that project. It's huge, and you're not aware of its size;

you're aware of the mountain and the rest of the woods..

MR. HOWARD: So the Northfield Mountain and Turners Falls project operations, just a little more detail on them.

The Upper Reservoir at Northfield can move 62-1/2 feet from a maximum elevation of 1,025 feet above sea level down to 138 feet above sea level. The Lower Reservoir's operating range, if those contents were moved down into the Lower Reservoir, we have a nine foot range at the Turners Falls Dam, from 176 feet above sea level to 185 feet above sea level.

No. 1 Station generally operates as a baseload plant when river flows exceed the hydraulic capacity of Cabot Station, or when river flows are very low. For a few weeks in the summer we'll run our inflow through No. 1 Station. Cabot Station generally operates as a peaking plant when the flows are above our minimum flow up to the hydraulic capacity of the facility. Then as the flows exceed the hydraulic capacity of the facility, Cabot Station operates as the baseload facility.

Yes, Peter.

MR. CONWAY: Peter Conway, Gill. Just a clarification here, the Upper Reservoir is a reservoir up on top of Northfield Mountain. Correct?

MR. HOWARD: That's correct.

MR. CONWAY: The Lower Reservoir is all the water just above the dam; is that what you're saying?

MR. HOWARD: Not all the water, but a good portion of it, yes.

MR. CONWAY: Well, a big portion of it. We are confused about, there's two reservoirs involved in Northfield Mountain. The Upper Reservoir is where the water is stored, to come down through the channel, and you take the water out of the river, which is what you're calling the Lower Reservoir, correct?

MR. HOWARD: Correct.

MR. CONWAY: Okay, thank you.

MR. HOWARD: Potential modifications that we're evaluating during the relicensing period, upgrading the No. 1 Station with new or rehabilitated turbines; closing No. 1 Station and adding a turbine generator at Cabot of similar hydraulic capacity as Station No. 1. Utilizing the full hydraulic capacity of the Cabot turbines that currently exist but are not being used.

Utilizing more storage in the Northfield Mountain Project's Upper Reservoir. So the Upper Reservoir, when it was constructed back in the late 1960's, was built to hold additional water for transfer to the bottom reservoir, and that storage is there to be available for use if we were licensed to use that water; and increasing the unit and

station capacity at the Northfield Mountain Project.

MS. CHANG: Claire Chang again. How much does that reduce capacity?

MR. HOWARD: Could you go back one slide?

Which bullet are you asking me about?

MS. CHANG: You're providing more storage in the Northfield Mountain Project's Upper Reservoir.

MR. HOWARD: It's approximately 2,000 megawatt hours of additional energy storage that could be made available.

MS. CHANG: Can you do feet?

MR. HOWARD: Feet?

MS. CHANG: Volume.

MR. HOWARD: Volume would be about 3,000 acre-feet.

MS. CHANG: So I know you said increasing the unit and station capacity. What does that mean, turbines?

MR. HOWARD: Right, above what we're licensed to do now.

MS. CHANG: Do you mean actually increasing the turbines, replacing the turbines that are actually there now or just --

MR. HOWARD: No. The turbines that are there now are capable of additional output.

MS. CHANG: So that would be an additional how

much?

MR. HOWARD: I don't know. That's what we'd like to study, to see if that's possible. It may not even be possible. Yes.

MS. KRUG: Stefanie Krug from Greenfield. In realizing more storage in the Northfield Mountain's Upper Reservoir, would that just be raising the water level? In the already -- the upper reservoir it is now? Or is there additional space that could be used that is currently not being used?

MR. HOWARD: The one you said, the second. Yes, there's space there that can be utilized that's not currently being used for water storage.

MS. KRUG: Could you explain like where, with respect to the reservoir --?

MR. HOWARD: Just, the water level could be raised up in the existing impoundment.

MS. KRUG: Okay.

Mr. CONWAY: Thank you. Peter Conway again.

So John, in terms of visualizing it for myself, we've got a water level abyss and a water level down to here, that's what we pull out, and for the modifications we're going to go up four feet higher, five feet higher, six feet higher? How much more?

MR. HOWARD: Four.

MR. CONWAY: Four, and we're going to go down how much lower?

MR. HOWARD: Eighteen.

MR. CONWAY: So we're going to take that much more water to come down through. We're going to go -- we're going to add four feet more of pipe, and take out 18 feet below what we're taking out.

MR. HOWARD: So we've rarely, I can't think of a time where we've ever used all that water. Typically, what happens is the water is held in reserve. So in periods of time like last week or in a period of time like in the middle of the summer, ISO New England will pull Northfield Mountain right out of the energy markets -- these unregulated markets that you've been hearing about -- and they'll reserve that water for security and stability of the New England electric system.

So it's not that the water would be used, as you're suggesting, you know, up and down. But it would be there in the event that they needed it to stabilize New England.

MR. CONWAY: But it could be used. It could be.

MR. HOWARD: It could be. Yeah?

MR. CONWAY: Thank you.

MR. HOWARD: Yes?

MR. SNEDEKER: Hi, Greg Snedeker, Gill resident.

What I've seen here are a lot of projections in terms of increases. So you must have done some studies in terms of projecting forward in terms of why you would need the increases.

I'm just wondering what the projections are, what determined why you would go down looking to increase capacity and increase draw? (ph/dh)

MR. HOWARD: Number One Station was built in 1905. Northeast Utilities retired it in 1973, and then they reactivated it in 1983. It has most of the original equipment still there; the equipment is not that efficient. There may be an opportunity to replace that equipment with more efficient equipment today.

MR. SNEDEKER: But more efficiency doesn't necessarily mean more draw?

MR. HOWARD: It may not mean more draw. It may mean just getting more energy out of current design water widths.

Closing No. 1 station and adding a turbine generator to Cabot is just something that we wanted to run through, to see if it makes sense. And the same with the hydraulic capacity of the Cabot turbines; they were replaced about ten years ago with more efficient runners that are made with computation fluid dynamic modeling versus 1916 vintage runners that were hammered out by blacksmiths and

guys with slide rules.

So with no increase in discharge but more efficient equipment, and we can get more output out of that more efficient equipment, and we just want to see if that makes sense and if it's even possible.

MR. SNEDEKER: Would that be with the same amount of input?

MR. HOWARD: At Cabot, it would be more input for more output at this point.

MR. SNEDEKER: Okay, so you're increasing the --.

MR. HOWARD: Yes. And Northfield -- same to go above once we've completed the upgrade of our units, kind of a life extension of those units; it would be more input for more output.

Yes?

MR. McCOOL: Don McCool here. You can raise and lower the Connecticut River 9 feet, roughly, right now. How much more of that would you be able to do in the extensive changes you're making to the mountain/

MR. HOWARD: So right now the minimum elevation at the Turners Falls impoundment is 176, the maximum operating elevation is 185, and the top of the dam is 185.5; so there's no more room there to move.

MR. HOWARD: Yes.

MS. CHANG: Claire Chang, Gill. So that means

you could take it down further, because you're sucking up more water.

MR. HOWARD: No, you can't go down any further.

MS. CHANG: So your minimum --. If you're increasing the capacity up at the top reservoir, how are you accounting for taking that volume of water from the Connecticut River? The river levels would have to go down.

MR. HOWARD: Well, again, that's something that we need to look at. I can't answer that question --

MS. CHANG: I'm sure you've looked at this. You're not proposing this just off the fly, you've got some numbers.

MR. HOWARD: Well, actually, I don't have the numbers on the top of my head.

MS. CHANG: Somebody has them somewhere, then?

MR. HOWARD: Not that I'm aware of.

Yes?

MR. SNEDEKER: I just want to get back to that, one last time. So your EROIE, basically your energy return on inputted energy would be, you're looking for a more efficient return?

I'm just trying to get, in terms of your projections forward, you would be replacing some of this in essence to get a more efficient return on your inputted energy.

MR. HOWARD: At which station? Any of them? Yes.

MR. SNEDEKER: Okay.

MR. HOWARD: Yes, John?

MR. WHARTON: John Wharton, Gill.

On bullet points 3 and 4, utilizing one part of the Northfield Mountain project, the upper reservoir, and increasing the units to station's capacity, how much more energy would be gained by doing that?

MR. HOWARD: So Northfield runs on average about a million megawatt hours a year. Last year it was well under that number. Northfield, like everyplace else, is impacted by the markets from 2008 going forward. So there may not be any additional power output or capacity. There may not be any additional energy output; it may just be a capacity increase.

MR. WHARTON: Where I was actually going with that question is, there is no net energy gained from doing that, because that facility operates at a 68 to 70 percent --

MR. HOWARD: Oh, okay. That's a completely different question. If you're asking me what the pump generator issue is at Northfield, for everyone here to understand that concept. So Northfield consumes more energy than it generates; it has a plant efficiency of about 75

percent; or the inverse of that is the pump generator ratio, runs around 1.37, 1.38.

Yes.

MR. McCOOL: You would be losing more energy.

MR. HOWARD: No; actually by putting in more efficient equipment, you're able to increase the plant's efficiency.

MR. McCOOL: I didn't think you were putting in more efficient turbines; you're just increasing the amount of water that was stored. You're pumping more water up and draining more water down; you're losing energy because you're pumping more water up.

MR. HOWARD: Those are some of the things that we need to evaluate to see whether this concept makes sense. The pumps are connected to a synchronous motor, centrifugal pumps; the generators are not. So there is some engineering that needs to go along with that concept.

MR. CONWAY: Peter Conway, Gill.

So first of all, I want to tell you that I do appreciate the flood control that we now have as far as how you control the water in severe storms. We have the rainfall above the dam; it's done very well, there's very little flooding that goes on or increase in water when we had that rain coming. But I need a little help on the dam itself and the two numbers you gave.

And you talked about minimums and maximums that you use to evaluate what you're doing. You mentioned a number, 176, didn't you, as a --

MR. HOWARD: Yes, the lower elevation.

MR. CONWAY: -- and a maximum of 185. And what goes on with those numbers, anyway? What do you do with those numbers? How does that work?

MR. HOWARD: So those are limits that are set in our license.

AUDIENCE: Could you repeat the question? I don't think the whole room could hear it.

MR. HOWARD: Sure. The question was, 176 and 185, what do we do with those numbers? Those are maximum and minimum operating elevations for the Turners Falls impoundment at the Turners Falls Dam.

And just to correct one point, there is no flood control at this facility. We have very little storage capability.

MR. CONWAY: Really?

MR. HOWARD: All we do is once the hydraulic capacity of our facilities are exceeded, we start to open up the gates at our Turners Falls Dam.

MR. CONWAY: Okay.

MR. HOWARD: No flood control whatsoever.

MR. CONWAY: Right. Well, I assume that's how it

worked.

So again going back to the 176 and 185, when you release the water, that 185 shouldn't go any higher than 185?

MR. HOWARD: So as John Ragonese explained for the TransCanada projects, the profile, we try to do the same thing during high flow events. We start to drive the elevation at the dam down, so that we have as little impact upstream as possible until our gates, our gates on the Montague side are completely laid flat, and our tainter gates, our radial arm gates on the Gill side are completely open; and then we're just passing what's coming down.

MR. CONWAY: So when you draw water, basically it doesn't go below 176?

MR. HOWARD: Correct.

MR. CONWAY: Okay, thank you.

MR. HOWARD: All right. If there's no more questions. Some of the recreation facilities that we have, Bennett Meadow Wildlife Management Area up in Northfield, the Munns Ferry boat camping area, Boat Tour and Riverview picnic area, our visitor center, and also tour and trail center. We have an observation deck at our upper reservoir, with about 26 miles of trail on the side of Northfield Mountain. We've got a fish viewing area here, across the road at our Turners Falls facility. We have a branch canal

area by No. 1 Station and a fishing access area through the fence down to the Connecticut River. And then Unity Park over here across the road.

And then on the right hand column, just about on the west Barton Cove, many of you are familiar with that; and a canoe and kayak rental facility we have. The Gill State Boat Launch, just up Route 2 from that, our Barton Cove canoe and kayak rental. A Cabot camp right at the confluence of the Millers River. The Pachaug Wildlife Management Area, state boat launch at the north end of Northfield; and then the Cattle Woods fishing access area along Migratory Way, our canal side trail bike path, and then the kin portage.

And then there's just a pictoral of all of the recreation facilities I mentioned from the Pachaug Wildlife Management Area; it's on land that the company constructed the facilities donated to the Commonwealth; down through the wildlife management area at Bennett Meadow, and then a little more concentrated as you get into the Turners Falls area.

MR. HOWARD: Yes.

AUDIENCE: -- from Gill.

So these are all public access, so the only private one is the Franklin, the boat club on the Gill side? Is that true, or are there private facilities that you --

MR. HOWARD: That's the only private boat club on the 22 miles of river that I'm aware of.

AUDIENCE: But how long is that leased for?

MR. HOWARD: It's not a lease. There's no interest in the land there; it's what called a license or a permit, and it is permitted on a five year frequency.

AUDIENCE: So when is that up for you next?

MR. HOWARD: I'm not sure exactly sure when the permit expires to be renewed.

AUDIENCE: Is that a public process, that permit?

MR. HOWARD: No, it's a permit between the Franklin County Boat Club and FirstLight.

MS. VERVILLE: Sarah Verville from TRC.

I do want to say with respect to something like the Boat Club, when there is a use of project land or something that is not strictly related to the project, such as a private boat club, it does need FERC approval.

MR. HOWARD: Yes, the boat club and -- it's a non-private use that has been approved by the Federal Energy Regulatory Commission. And land -- it's in the private but are open to the public, so while you may not have a boat on a slip there, you cannot be prohibited from going on our property.

MR. McCOOL: Do you take credit for all these recreational opportunities as FirstLight's?

MR. HOWARD: No, I don't take credit for Unity Park, I don't take credit for the canal side rail trail. I just mention them because they are within our FERC project boundary; but they're not part of our --

MR. McCOOL: You don't maintain them?

MR. HOWARD: No.

Yes?

AUDIENCE: (inaudible) Turners Falls.

I'm not sure how relevant this is, but I live near Unity Park --

AUDIENCE: Could you --

AUDIENCE: -- I'm sorry. My property abuts the grassy strip and backup to Unity Park, which you own, and I don't see it on there as a recreational spot in terms of maintenance and regulation of behavior on these spots. I have a big issue with what goes on in that area. I'm just throwing that out. It's your property.

MR. HOWARD: I understand. Thank you.

AUDIENCE: Is there anything you can do to --

MR. HOWARD: Well, what we do, if you make a complaint --

AUDIENCE: I can make a complaint, but --

MR. HOWARD: To the Montague Police.

AUDIENCE: Yes, many, many; and they know me well.

MR. HOWARD: Before we leave tonight, I'll give you my business card.

AUDIENCE: Thank you. I'm hoping maybe at least a sign saying 'no camping, no fires'?

MR. HOWARD: No trespassing.

AUDIENCE: I've got the no trespassing signs.

MR. HOWARD: Got you. I'll give you my card.

AUDIENCE: Thank you very much.

MR. HOWARD: Yes?

AUDIENCE: And the crime (inaudible) -- are any of these recreation facilities subject to be changed?

MR. HOWARD: The ones that are licensed by FirstLight are all subject to change.

AUDIENCE: Do you know what extent?

MR. HOWARD: No. I mean, that's what this process is all about.

MR. WAMSER: Hello, I'm Mark Wamser with Gomez and Sullivan, Engineers. We're assisting FirstLight in the relicensing of the projects.

We're going to go through the various studies that we've proposed in the pre application document with folks. If you have questions, please let me know.

As you know, there have been many studies done in the Turners Falls impoundment; we didn't list them all here. There's been full river reconnaissance surveys, there's been

erosion control plans, and there's been, as you know, on the ground stream bed stabilization.

So the next full river reconnaissance surveys, scheduled for November of this year; and although this is part of compliance with the existing license, FERC has asked us to wrap this into relicensing. So we've met -- not me personally, but we've met with the Streambank Erosion committee to work out what's called a QAPP, which stands for Quality Assurance Project Plan. And we're still in that phase of finalizing that. So this study will be part of the relicensing now.

Another one that was not listed in the pre application document that we're proposing to do is hydrologic, hydraulic and geomorphic analysis of erosion at Turners Falls impoundment. There's been a lot of past work done in the impoundment; we also have now a hydraulic model of the Turners Falls impoundment, which will enable us to look at depths, velocities, the profile of the river. So that will be another study we're doing.

And then there are two other studies that we filed with the FERC, and we placed these on our, the Northfield Relicensing.com website; and I can't emphasize enough, go to that website, join the mailing list; that way you're automatically notified when we post something, such as this presentation tonight is on there, right now.

These are two other studies that were done; we looked a the erosion that's occurring on the Route 10 bridge, and then there was a study done that looked at riverbank erosion on not just impounded sections of the Connecticut River but also free-flowing sections of the river to look at with the erosion that's occurring naturally in some of these sections.

Yes?

MS. CHANG: Claire Chang from Gill.

So I think I missed this part, but what is the technical boundary for the Turners Falls impoundment, when you say those words?

MR. WAMSER: In the next slide will define it a little bit further, but generally what we're talking about is from the Turners Falls Dam up to Vernon Dam.

MS. CHANG: The whole stretch?

MR. WAMSER: It's about 20 miles, roughly. But I'll show you something a little later that, we -- it's a little bit below Vernon Dam but not much.

MS. CHANG: Okay, and then we're going to talk about the riverbank erosion compared to the No. 4?

MR. WAMSER: Yes.

MS. CHANG: So that's the whole stretch, also?

MR. WAMSER: Yes, and this is a compilation of work of Dr. Bob Simons, who has done a lot of work on this

impoundment, but he's also done other work in free-flowing sections of the Connecticut River further upstream; so it's an analysis of looking at what's occurred naturally in free-flowing sections, in terms of erosion as well as what's occurring in the controlled sections.

MS. CHANG: So you're saying above the Vernon Dam you're comparing --

MR. WAMSER: It's even further up in New Hampshire and Vermont.

MS. CHANG: Because all the dams all along the Connecticut create an unnatural, so I don't know how you're going to find a natural part --

MR. WAMSER: No, further upstream there are natural, free-flowing sections of the Connecticut; they're not all impounded.

MS. NEWCOMB: Leena Newcomb, cottage owner on the Montague side of the river.

It says, No. 4, completed 2012. When was the river in the Turners Falls to Vernon, Vermont section of the river, when was that researched and looked at?

MR. WAMSER: This wasn't a field-based study; it relied on a previous work that he had done within the Turners Falls impoundment. So he --

MS. NEWCOMB: Previous work when? What year?

MR. WAMSER: Other full river reconnaissance

surveys have been done, I think 2005 -- I think there were three of them that were done.

MS. NEWCOMB: A date?

MR. WAMSER: I don't have the dates, but they are in the pre application document.

MR. BENNETT: Mark, John Bennett with the Franklin Conservation District.

You mentioned the hydrologic, hydraulic and geomorphic analysis is not in the PAD. How do we get a look at it, what you're proposing?

MR. WAMSER: Well, that's part of the study plan. So you guys send in what you're looking for for studies by March 1st. By April 15th, which only gives us 45 days to consume everything you've provided to us and develop a study plan. You'll see that by April 15th, what we are proposing.

And then you'll look at it, we'll have a meeting, and you guys will be able to comment on those proposed study plans. After that comment period, then we do revised study plans. So there will be another round.

MR. McCOOL: Don McCool, Montague.

Does your firm, or has FirstLight looked at the impact of what happens below the dams; water flows downhill?

MR. WAMSER: Yes, in fact we have looked at some of that; it's part of the pre application document. We had placed, it was called water level reporters at different

locations downstream and upstream of the dam to see how operations affect what we call stage -- stage means water elevation changes in the river; so that's actually been looked at, is in the ratification document for now.

MS. DONLON: Andrea Donlon, Connecticut River Watershed Council.

If there are parties that submit study requests related to erosion, what goes into -- potentially what goes into your study request? Or have minds have already been made up?

MR. WAMSER: No. I think we have to look at what the request is, and if we feel like there's this criteria that Ken mentioned, if it meets that criteria then we're not going to necessarily develop another study just for that; maybe lump what you're looking for with this study, or we need to break it out separately; but we have to see what your study request is.

MS. JANKE: Dotty Janke, Greenfield.

When the previous gentleman was presenting, the last question was about the recreational facilities, opportunities around Barton Cove particularly; and he said that they would be reviewed.

And so my question is, how can we as residents and citizens make sure that we are still going to have access to the river?

MR. WAMSER: We are going to get into that a little later, on recreation. But you still have access; it's a question of maybe improvements at existing recreation facilities. There could be down the line maybe, other locations for recreation facilities. But the intent here is not to close the door and not let anybody into the recreation facilities.

MS. JANKE: Because I think, isn't it true that the federal government allows these power companies to use rivers but they also had to provide recreation for the citizens?

MR. WAMSER: It's a balance between both power and non-power resources.

Ken, if you want to talk about it.

MR. HOGAN: We recognize that the hydro facilities utilize a public resource. In return, one of these that we look at are what kind of opportunities can the licensed hydro facilities provide to the public for the use of that resource.

We've heard throughout -- we've had several meetings this week, and throughout -- there's a large interest in identifying recreational access needs, usage needs and recreation facility conditions and assessment of the proposed conditions; and that information will be utilized by FERC to determine what the appropriate

recreation is or what those needs are, what those needs are projected to be in the future, and what types of facilities are appropriate to provide the demand for the area.

So as Mark said, I don't think we're looking at necessarily closing the access, unless there was a security or a safety issue or something like that; and I haven't heard that concern just yet; but it's more of, are the rec facilities meeting the needs that are out there today and will they continue to meet those needs into the future? That's what we're looking at.

Claire?

MS. CHANG: So the fishway and the canoeing area is open for a little bit of time during the year -- that wasn't listed on the recreation --?

MR. HOGAN: Actually, I think those were listed on the site.

MR. WAMSER: Well, Ken, how do you want to do this? Do you want to go --

MR. HOGAN: Are you done?

MR. WAMSER: Well, I'm done with geology and soils, I didn't know the way we were doing this, if you were going to open it up for --.

MR. HOGAN: Well, why don't you go through all of your slides and all the resources, and then we will cover and identify the issues that we have identified, and then

we're going to go right to the public and seek their input. You can go by resource area or free-form.

So what we'll do is, we're just going to go through the names first of the folks who signed in -- no particular order, just whatever I pick up on the sheet, and then we'll open it up to any general comments out there.

MR. WAMSER: So the next section is about water quantity and quality. And we are going to develop what's called an operations model, and what this entails is a model of the river system; and the one we're using is going to be partnered with the Nature Conservancy. The actual name of the model is HACREZSEM (ph), and it is for a period of record where we looked from 1960 to 2003, it's on an hourly basis.

What this model does is it looks at not only hydropower generation but also what the flow releases are from the projects. The output from this model will be discharge below Cabot, water level changes in the impoundment, will be used as input into other studies. So this is an important one.

We are also -- this is kind of standard with water quality and monitoring, and that typically entails dissolved oxygen, temperature and percent saturation. And it's usually continuous monitoring over the summer period. So we would put monitoring equipment below Vernon, one being

further down in the impoundment, one in the bypass, and throughout the system below Cabot and so on.

AUDIENCE: Mark, what is percent saturation?

MR. WAMSER: It's the amount of oxygen in the water; so for example what you don't want is a case where it's supersaturation, like over 100 percent. The standards are, I think you want at least 75 percent. So it's looking at the temperature of the water and the dissolved oxygen in the water.

MS. CHANG: Claire. Will you be putting one of those measures in the dead reach, the dead --?

MR. WAMSER: In the bypass channel?

(Laughter)

AUDIENCE: The dead reach.

MS. CHANG: The bypass channel? I've never heard it called that. So that's where the Gill and Montague gates open?

MR. WAMSER: No. The intent is to put one in the bypass channel; but I will say this: We also had water level reporters in the bypass channel that were either vandalized or stolen literally every two weeks. So we will attempt to do temperature and DO monitoring out there; we can disguise those a little bit easier. But the intent is to put one in the bypass channel.

And the last thing I wanted to hit -- oh.

MR. MORGAN: Just quickly -- John Morgan from Delta.

So all of the information that you're gathering -- I heard you mention at the beginning the impoundment and below Cabot, and you ran through all the information you were gathering there. Will all of that information be gathered for the bypass channel?

MR. WAMSER: You mean temperature and dissolved oxygen?

AUDIENCE: Operations --

MR. WAMSER: Oh, okay. Yes, I see what you're saying. So yes, the model will give us information on what's being spilled at the dam, what's going down the canal, and what's below, as we merge to get up below Cabot. Yes. So we'll look at that.

MR. MORGAN: So you will look, in particular, at what's going through the bypass channel?

MR. WAMSER: Yes.

MR. HOGAN: How far downstream -- Ken Hogan with FERC -- does the model go?

MR. WAMSER: The model we have goes down to Holyoke right now. However, I think the Nature Conservancy's model does go further downstream; so if we wanted to extend it, if we could. For right now, that's where it's -- it's at Holyoke.

MR. BENNETT: Just one clarification, John Bennett.

You said the dates for these data, for the HAC modeling was when?

MR. WAMSER: 1960 to 2003.

AUDIENCE: Why are you not doing more current?

MR. WAMSER: The reason why is not really us; it's the Nature Conservancy, when they developed the model, there's actually a woman at the U.S. Geological Survey that did it, and it ended in 2003. I don't have an explanation why they didn't extend it further.

SPEAKER: But how can that be valid for a project that's getting relicensed in 2018 -- for many years?

MR. WAMSER: The reason why is, and the reason why we're looking at the full period record from 1960 to the year 2003, you know, that's 40-plus years of record, is the future hydrology is probably similar to the previous hydrology, recognizing that there is climate change. But the idea is we're going to simulate how these projects operate in today's current condition; but the flows through the system are going to vary based on day-to-day.

So it's not necessary that we have to have the hydrology, the flows from 2003 to now, because this wave of a model of projects is how they're operated today.

SPEAKER: So you'll take the data from Northfield

Mountain and Cabot Station in terms of what those flows were from 2003 to the current, and plug that into this. Is that-?

MR. WAMSER: No. What we will actually do is a -- I don't want to get too far into the weeds here, but it's a demand schedule. We say this is normally when it comes on; for peaking operations this is when it tails off. We tell it the megawatts, and the model will determine how much water is needed to make those megawatts.

MR. McCOOL: Don McCool. Are you going to do this study below the dams?

MR. WAMSER: Which study. This one up here?

MR. McCOOL: Yes.

MR. WAMSER: Yes, we --

MR. McCOOL: You're going to look at the flow -- and will it be minute-to-minute or a daily --

MR. WAMSER: Ours is going to be an hourly time study.

MR. McCOOL: So 24/7?

MR. WAMSER: It will be an hourly time study from 1960 to 2003.

MR. McCOOL: You don't have hourly data?

MR. WAMSER: No. What we have is --

MR. McCOOL: Do you have any data from what goes on at the Sunderland and 116 bridge?

MR. WAMSER: No, no --

MR. McCOOL: The entire stretch is not navigable by a boat that only draws 3 inches.

MR. WAMSER: What we have for information is USGS gauge data.

MR. McCOOL: That's approximately where the Rail Trail Bridge goes over it?

MR. WAMSER: Right.

MR. McCOOL: Okay. Thanks.

So you don't know what goes on 100 yards from there.

MR. WAMSER: We don't at certain locations -- all we'll know is what the total flow going through the Turners Falls impoundment is at a few locations. For example, where the trail lot is, upstream and downstream of that, upstream and downstream of Millers.

MR. McCOOL: This is a retro effect study.

MR. WAMSER: No, it isn't. Maybe afterwards we could talk further about it, because there's a lot more behind this --

MR. McCOOL: Yes --

MR. WAMSER: Okay.

MS. AUSTIN: My name is Liz Austin, I'm with (inaudible). I work on the river in the spring, and I am on the Board of the Watershed Council.

I think there's confusion about the first one, because that's to develop a model. That doesn't mean that -- a model for what? What you do with that model once it's developed.

MR. WAMSER: The model is used for quite a few things. Obviously for FirstLight, we're going to look at what is the impact of alternative project operations on generation?

So for example right now the impoundment has a 9 foot fluctuation. What if there's a change in that amount of fluctuation that's permitted? How does that affect the Northfield project operations? Will it have an effect on generation?

Similarly we're going to look at, over the output of this model will be flow information. So we'll be able to look at different conditions that people are considering for alternative operations and what the impact is on flows. In the bypass, below Cabot, through the Turners Falls impoundment.

MS. AUSTIN: So this is a model to help FirstLight figure out what the effects will be of different kinds of operations.

MR. WAMSER: Yes, it is.

MS. AUSTIN: All right. And that's why taking that old data -- it doesn't matter about current data;

you're using all of that data to help you develop a model. Right?

And then you could plug in various scenarios and say 'this is what's going to happen.'

MR. WAMSER: Right, yes.

SPEAKER: So is there a proposal to increase that nine foot limit right now? Is that what's part of this?

MR. WAMSER: No. That's not. We're not making that proposal, no.

SPEAKER: Would the increased capacity of the Northfield Mountain reservoir -- that would be a really nice thing to do for FirstLight, wouldn't it?

MR. WAMSER: Well, I think where people are missing the point is, when they can be pumping is a function not only of how much storage is in that 9 feet, but how much water is coming in. So if you have more water coming in to fill that up and still be able to pump, to use that extra feet, you're not drafting more water from the lower reservoirs.

SPEAKER: How is that possible? You've got a volume in the river -- and we're not talking about an impoundment; it's a river. You've got a volume of water in that river. Maybe -- so you're talking about what comes down from Vernon, so Vernon lets more down so that Northfield can pump more up?

MR. WAMSER: I'll give you an example. In the springtime when there's a lot more water in the river, they could be maintaining the pond at 185 and still be pumping water, because there's that much more water coming in.

SPEAKER: I live just next to the dam. So I very rarely see a significant amount of water going over the dam anymore. It used to be much more, but nowadays -- and this is why I'm worried about your only doing logging -- using data only up until 2003 -- because currently, in the last five, six years, there's very little water that goes over the dam. That's quote, unquote "safety"; it doesn't go into the canal.

And I think that a lot more water needs to go through that area.

MR. WAMSER: That is part of one of the studies we're looking at, flow in the bypass channel.

AUDIENCE: Uh-uh.

(Laughter)

MR. HOGAN: And those are the types of comments that we're very interested in hearing today, your interest in having more water in the bypass reach, is what we want to hear.

So right now, FirstLight is going through what the studies that they are proposing are, but we want to hear what your concerns are. So if we can hold that type of

comment until, for a little bit, that would be great. If you have questions -- and I admit, some of these questions about the modeling and the studies being proposed are perfectly appropriate. But I do want to concentrate the issue-type comments for the next step of the meeting; and that will also help us to make sure that -- because when I read the transcripts, I'm probably not going to go through the proposals again; I'm going to go straight to your issues, and that's what I want to be able to concentrate on, and I don't want to miss an issue that was raised early in the meeting. That helps me.

MR. WAMSER: So there was one last study that we are looking at, and it was talked about a little bit earlier; it was the hydraulic model of the Turners Falls impoundment. And we'll be filing something, I'm not quite sure when, in the next month or two. But what we looked at a Turners Falls is how far upstream does the effect of the project go? And what we're finding, preliminarily right now is, it isn't all the way up to the Vernon tailrace but a little bit below. I think it's near Stephens Island -- is that the --?

AUDIENCE: Stefans.

MR. WAMSER: Stefans Island, okay. I think it's a little bit below that is what we're finding.

Yes?

MR. SHEARER: Tom Shearer from Northfield.

Is there any study going on in regards to developing a lower reservoir that would be separate from the river?

MR. WAMSER: We heard that today. And that's as much as I -- we've heard it today, we have not proposed that, to look at an isolated reservoir, lower reservoir.

SPEAKER: (ph) Kelly Ho again. I just want to say, you've heard it before today? So there has been --, to think about it as not a new thing?

MR. WAMSER: No, we have heard it before today. Yes, we've heard it.

SPEAKER: Mark, do you speak for FirstLight, or -- analysis for some discussion?

MR. WAMSER: I mean, we're working for them.

SPEAKER: So are you speaking their policy, and what you would expect them to do?

MR. WAMSER: I'm not quite sure what kind of question --?

SPEAKER: To get an unbiased --

MR. WAMSER: Oh, yes. When we do studies, we -- you know, and I think FirstLight would say this, too -- we're going to do scientifically-based studies. Because at some point when they get to the Commission, they have to be it rooted in science. So no, when we do studies, our team

does studies, they're going to be based in science.

MR. HOGAN: Let me also address that.

Another component of -- you know, the FERC licensing process is a very public process. So the studies are designed with resource agencies in consultation. We review and approved the methodologies, we definitely looked at, to make sure that when the study's plans are written that they're not written to bias the outcomes. And then the study reports are commented on and reviewed on in a public forum.

So to address the concern about bias, we do have lots of checks and balances on that. We have to make sure that the information that's provided to us, as Mark said, is scientifically defensible and appropriate.

MR. WAMSER: Next slide.

Okay. This is on fish and aquatic resources. This past year we did what is called habitat mapping of the bypass, and below Cabot Station, and what that entailed was we look at the width of the river, the depths, the velocities, the substrates; and it's really only to map where we see changes in the habitat of the river from a ripple to a run to a pool; and it's really done to inform this study right here.

What we've proposed in the pre application document was to conduct what's called an in-stream flow

study, and that will be done in the bypass as well as below Cabot. And the point of that study is to determine what flows are needed for the protection of aquatic resources. So that is one we are proposing to do. In fact, ideally we're looking to do that in 2013 during the summer, and we will be sending out a study plan on that perhaps earlier than the other study plans that are technically do in April.

A mussel survey has been done of the Turners Falls impoundment and in the canal, but we have not done anything below Cabot as of yet.

And the last thing here is assess impacts of project operations on sturgeon spawning near Cabot. That's probably going to be looped into this study right here. This study not only looks at -- it looks at all life stages of fish in various species of fish. So sturgeon would be included in that.

Any questions on that?

SPEAKER: Judy (inaudible). On that last point, you mentioned, will you at any point be proposing a similar hoist or elevator similar to the success they had down in Holyoke for theirs? It's a failure with the fish. Would that be something that you would be considering in the study?

MR. WAMSER: That is something that we are going to have to look at.

SPEAKER: The financial aspects of that?
MR. WAMSER: Yes.
SPEAKER: -- success points.
MR. WAMSER: For upstream and downstream passage, we'll be looking at that.
SPEAKER: So that is something, a viable -- possibility.
MR. WAMSER: It's a possibility.
SPEAKER: I didn't hear that mentioned earlier with this. It's just very vague.
SPEAKER: So which species are on your list?
MR. WAMSER: Oh, boy.
SPEAKER: Is it somewhere easy to find?
MR. WAMSER: It will be easy for you to find on April 15th, because that's when we'll have the official study plans out.
SPEAKER: Then you can't add anything in.
MR. WAMSER: Well, no, you can. The way the process works is that April 15th, you guys provide comment March 1st. We have 45 days to send out our proposed study plans. Then by FERC regulation there's a meeting so you can then provide comment. If we didn't include all the species that you thought should be in there, that's when they would be included. Then we issue a revised study plan, so you can see if we acknowledged or brought your comment in.

MR. MEYER: Just given that time line -- this is Carl Meyer -- from what I know about activity of sturgeon, you may be missing the season anyway. It may not be valid, what you're actually looking at spawning and using that reach. If you're getting -- April 15th is when you're getting the study plan in and any comments and any comments and getting it back, I think you might want to start thinking about next year.

MR. WAMSER: The study doesn't have to be done during the time the fish are there, spawning. But we do know, in talking to people who are very knowledgeable about sturgeon spawning, of where the spawning beds are, so we'll be collecting data in that area, but it doesn't have to be during the time that they're there.

Okay, Terrestrial resources, which includes rare, threatened and endangered species. In the pre application document we proposed what's called a baseline inventory study of the Turners Falls impoundment, the bypass reach.

And what that entails is looking at wetlands, wildlife, rare, threatened and endangered species, submergent aquatic vegetation, emergent aquatic vegetation in the littoral zone. So I heard this morning, I believe there was a lot of discussion about fish spawning, what the impact of project operations is on that, When we go look in

the littoral zone, which is kind of the edge of the river, where fish may be for spawning, we're going to take a look at where that is, where that spawning habitat is in relation to water level changes. So that will be something to look at.

Yes?

MS. DOWD: Just on that note -- Jean Dowd.

Do you have any previous studies, since that's been going on for like thousands of years -- the spawning, you said, you will be --. I wonder if you have anything to look back on with this particular study.

MR. WAMSER: I'm not aware of any that's actually physically gone out and mapped where habitats are, for like spawning habitats. So that's part of what we're trying to do, is go out and find where those areas are.

MS. DOWD: Okay.

MR. WAMSER: And see how project operations may have impacted them.

Yes?

MR. McCOOL: Don McCool. How far below Cabot Station are you looking? Ten miles?

MR. WAMSER: Right now we're thinking of --

MR. McCOOL: Because you -- on the water.

MR. WAMSER: Right now we're thinking down by, to Rainbow Beach.

MR. McCOOL: Oh, good.
MR. WAMSER: Yes?
AUDIENCE: (inaudible)
MR. WAMSER: I'm sorry, I couldn't hear you.
SPEAKER: Radioactivity. (inaudible) coming out, and -- you know.
MR. WAMSER: That's beyond me; I'm not sure. I don't have an answer for you on that one.
MR. HOGAN: Can I get you to state your name for the record, please? Your name?
MR. EZIOT: Gesti Eziot. {ph}
MR. HOGAN: Thank you.
MR. WAMSER: Okay, next, which I don't think says much; and next. So Sarah's up.
I can't get off yet?
AUDIENCE: No.
(Laughter)
MR. CONWAY: I've got to go back. You don't need to go back. Peter Conway, Gill.
As far as spawning and when they're left high and dry, I can definitely show you where. Since I fish this section about nine months out of the year, and I watched them just having their spawning areas just dry up.
MR. WAMSER: I heard you say that.
MR. CONWAY: You heard me say that yesterday.

MR. WAMSER: Yes.

MR. CONWAY: Okay. Thank you.

SPEAKER: Just one more comment on that (inaudible).

I know the Native Americans aren't here to speak for studies about these spawning grounds. I'm sure you're aware that the spawning does take place and that you said you will do a study of your own.

So if we were to find a good reference for you and when we send in our recommendations for studies, is it okay if we quote the studies that we would like you to look at?

MR. WAMSER: I think that's part of why you're here tonight, is for you to tell FERC and us what studies you want.

SPEAKER: Okay. I didn't know if that was something that would be in the scope of --

MR. HOGAN: Well, I think the question is not only what studies should be conducted; but the comment is, do we want you to provide existing studies, or a reference to existing studies?

SPEAKER: In other words, it may not be scientific studies; I mean, Native Americans didn't have data, but they can look at the scope and the size and --

MR. HOGAN: The answer is we're interested in all

available information.

SPEAKER: Right. From different sources and different studies. You would think that that would be something that we can send in to you.

MR. HOGAN: Absolutely. Thank you.

MR. WAMSER: Okay. Thank you.

MS. VERVILLE: Good evening. My name is Sarah Verville from TRC; I'm another consultant working with FirstLight. And our firm is going to be working on recreational and cultural resource issues.

In 2012 we started conducting an inventory of existing recreational facilities within the FirstLight project area, and the data from that inventory you saw a couple of earlier slides.

And what that inventory did, it was a season-by-season study, and it determined what the existing facilities are, what kind of amenities they provide, what kind of condition they're in. We're going to try to finish the study in 2013, although weather hasn't been permitting, to sort of do an inventory of what sort of winter recreational facilities are available; obviously the Torren Trail Center is the obvious one.

We also, in our PAD, we proposed that we would develop study plans and study recreational use and doing user survey to figure out what sort of the recreational

demands are out there and what recreational opportunities are out there; whether or not changes to facilities needed to be made, whether or not there need to be new facilities, and what sort of demand there is.

We're also going to do a land use clarification inventory, which is sort of an exercise to classify the management of lands within the project boundary. And then finally we're going to take the other studies and look at the effects of project operations on recreational use and land use. We've heard a lot over the last few days, for instance, about, are there project operational effects on Barton Cove, for instance. Are there water level effects on some of the recreational facilities?

MR. SNEDEKER: Greg Snedeker, resident of Gill.

Just a question on the lone use classification. Do you have classifications now or are you proposing to create classifications; and what do you mean by that?

MS. VERVILLE: Well, first of all what we mean by that is going out and taking at how much of agricultural lands there are within the project boundary; how much, is it just devoted to the project itself? Is it undeveloped land?

MR. SNEDEKER: In terms of the land, you're talking about FirstLight land.

MS. VERVILLE: FirstLight's land.

MR. SNEDEKER: Okay, because much of that is not

-- it's on the boundaries of the banks, so you can't really consider it to be agricultural. There's agriculture above it.

MS. VERVILLE: There are areas where FirstLight's land ownership goes just beyond the bank; or it goes up beyond the bank. But the other part of that inventory is to get to your second point which is, are lands within the project boundary that are owned by FirstLight being appropriately managed?

Yes.

MS. KRUG: Hi, Stefanie Krug from Greenfield.

The bullet has No. 1 conducting the recreation use survey. How will you try to survey recreation use?

MS. VERVILLE: Well, at the moment what we tend to do is, and I'm not completely the expert on this, but what we do is we take -- we leave user cards at different recreational facilities; we interview, survey recreational users at different facilities.

MS. KRUG: Would there be a -- maybe create a website or some on-line survey that people could volunteer and access them, and so you wouldn't -- I know a lot of people that use the recreation office that would never see a survey.

MS. VERVILLE: Right. We can take that into account.

MR. HOGAN: Is it Stefanie?

MS. KRUG: Yes.

MR. HOGAN: The reason I'm here tonight is, how do you want the recreation survey done? So you tell me.

MS. VERVILLE: We'll definitely take that into consideration as a way of doing the survey.

I'm sorry?

MS. TUFTS: My name is Jennie Tufts, and I'm here tonight on behalf of the Northfield Open Space Committee. And I just wondered if you were aware that we had done an extensive survey of the residents of Northfield. If aren't aware, then I can direct you to it.

MS. VERVILLE: That would be great.

MS. TUFTS: If you went out to everyone in town, asking them what they wanted, what they use now in terms of recreational facilities; and that's all on the town website.

MS. VERVILLE: That would be great. Thank you very much for letting us know.

Cultural resources, we have proposed to, with respect to archaeological resources, we're going to start out with sort of a standard phase 1A archaeological survey where we will do a literature review and an onsite visit with all of the SHPOs to get a handle on what historic sites have already been identified. We'll then probably develop a sensitivity model to figure out what areas of the project

are sensitive, likely to have the presence of archaeological resources; and then depending on that modeling, to do some field testing to determine eligibility of archaeological resources.

We'll also do an historic structures survey, and we will be evaluating the project's facilities for eligibility on the register, and whether or not the project itself has an impact on eligible historic structures within the project vicinity.

MR. HOGAN: Thank you.

Oh, we have a question? Claire.

MS. CHANG: About the archaeological survey, are you using the Mass archaeological database?

MS. VERVILLE: We will be. We haven't done anything yet.

MR. HOGAN: So at this point in time we're going to quickly go through the resource issues that FERC has identified in its Scoping Document 1. If you wanted to follow along, it's on page 27. This will be very quick, won't take us very long at all to do this. And then -- it is 27, right?

And then, give you guys an option for a break after we do that, or we can jump right into a public comment period, either one.

I'd like a show of hands. Either way, I have to

do a break at least by 8:30 to give this gentleman here, who is working very hard, a short rest.

MS. DOWD: Excuse me, sorry for interrupting. Jean Dowd, Greenfield. I just felt there would be a balance, since you've listened to 23 slides, that maybe the public could say something at this point for some of us who have to go home and take care of family.

MR. HOGAN: Would you folks rather that FERC doesn't do its --

SPEAKER: I appreciate that, a break, and then listen to the public at 9:30.

MR. HOGAN: Okay --

AUDIENCE: How long is the FERC --

FERC: We'll be quick.

MR. HOGAN: About five minutes for the FERC portion.

So we'll do the FERC portion for five minutes and then we'll take a break at 8:30. It's 10 of 8 now, so we will get into the public portion, okay?

AUDIENCE: Thank you.

MR. HOGAN: Geology and soils.

Geology and Soils

MR. NELSON: My name is Rob Nelson. So I'm going to be looking at page 26, 27, 4.3. And these are some of the issues and concerns initially identified by the FERC;

and I'm going to speak to geology and soil resources. There are two bullets, and I'll just read from it for you.

We're looking at the effect of project-induced water level fluctuations in the Turners Falls impoundment on shoreline stability and river bank erosion, particularly where erosion might impact protected plant species, critical wildlife habitat, adjacent structures, recreational use facilities, cultural resources and/or private land owners within the project boundary.

Second bullet, we're looking at the effects of Turners Falls project operation on river bank erosion in the bypass reach and downstream of Cabot Station.

Water Resources - Water Quantity and Quality

MS. SCANGAS: Angie Scangas, Section 4.3.1.2, Water Resources. We've identified the effects of current and proposed project operations on water quantity, including power generation, and the effects of project operations on water quality, particularly dissolved oxygen and temperature.

MR. WARNER: John Warner, is that water quality analysis to include sediment load?

MR. HOGAN: John, should that water quality analysis include sediment load?

(Laughter)

MR. HOGAN: Why don't we hold the comments -- or

questions like that, and you tell us what you want to see when we get to the public comment period, okay.

Aquatic Resources

MS. GREEN: Mary Green. Aquatic resources and the preliminary issues that have been identified. The effects of project operations including fluctuations in water levels and downstream releases on aquatic habit and resources in the project vicinity. For example, resident and migratory fish populations, fish spawning, rearing, feeding and overwintering habitats, and mussels and macroinvertebrate populations and habitat.

A second bullet is the effects of project facilities and operations, including the reservoir fluctuations and generation releases on fish migration through and within project fishways, reservoirs, and the downstream riverine corridor.

And a third bullet is the effects on entrainment on fish populations at each project.

Terrestrial Resources

MR. BATTAGLIA: Brett Battaglia with FERC, terrestrial resources. Effects of project fluctuation in water levels and flow releases from the project on riparian, wetland and littoral vegetation community types, and the spread of invasive species as a result of project operations along the shoreline of the project. Effects of project

operation and maintenance activities; for example, road and facility maintenance, and project-related recreation on wildlife habitat and wildlife.

The effects of project operation and maintenance on river bank integrity and shoreline erosion along the project reservoir and the stream reaches, and its potential effects on riparian vegetation.

Effects of the frequency, timing, amplitude and duration of reservoir fluctuations on waterfowl and on riparian and wetland habitats.

And lastly, the effects of project operation and maintenance activities and project-related recreation on bald eagles and their habitat.

Threatened and Endangered Species

MS. McCANN: Effects of project fluctuations and releases from the project on aquatic species listed as threatened and endangered under the federal Endangered Species Act. For example, shortnose sturgeon. Effects of project fluctuations and releases from the project on wildlife and plant species listed as threatened or endangered under the Endangered Species Act.

Effects of maintenance and use of project recreation facilities on plants and wildlife species listed as threatened or endangered. And effects of project operation and maintenance activities on plants or wildlife

species listed as threatened or endangered under the ESA.

Recreation

MR. BEECO: Recreation. Under recreation, the adequacy of existing recreation and public use facilities, existing and future regional public use and river access needs. Effects of project operations on quality and availability of flow-dependent and water level-dependent recreation opportunities, including boating. The adequacy of structural integrity, physical capacity and/or management methods to support recreation use at existing facilities.

Land Use and Aesthetic Resources

And under land use: the advocacy of existing shoreline management policies and programs to control non-project use of project lands. The adequacy of shoreline buffers to achieve project purposes in compliance with local and state requirements.

And under aesthetic resources, at this time we have not identified aesthetic resource issues.

MR. HOGAN: Do I need to translate?

(Laughter)

SPEAKER: How do you define an aesthetic resource?

MR. HOGAN: How do you define an aesthetic resource?

Basically viewsheds; for FERC a lot of times it's

the aesthetics -- a lot of our hydro projects may occur at existing waterfalls, and they route the water around the waterfall and there's no water on the fall anymore, there's an aesthetic issue. You know, it's prettier with water over the falls than not over the falls.

But it can be anything. If you want to identify eyesores that you feel should be addressed, that's what we're interested in.

Leena?

MS. NEWCOMB: Leena Newcomb. Does the color of our homes and cottages and camps on project lands fall under aesthetics, and who governs that?

MR. HOGAN: The answer is 'possibly yes.' And possibly us. Not to say that it's an issue. I haven't heard that yet. So -- okay?

MS. NEWCOMB: Yup. We'd like to (inaudible)

MR. HOGAN: I'd like to know if it's an issue.

MS. NEWCOMB: It is.

MR. HOGAN: And we'll get to that.

For socioeconomic resources, when we developed Scoping Document 1, we did not identify any socioeconomic resources. However, through our scoping meetings thus far, we have identified socioeconomic concerns associated with recreation opportunities, and we've been asked for an economic analysis of the recreation availability, recreation

in the project area. So just to identify that currently.

Culture resources?

Cultural Resources

MR. QUIGGLE: Section 4.3.10, of Scoping Document 1 describes the issues we've identified in association with cultural resources. And those are project effects on archaeological and historic properties listed in or eligible for inclusion in the National Register of Historic Places, including properties of traditional religious or cultural significance.

MR. HOGAN: Regarding developmental resources, we typically don't seek public comment on this resource; this is an analysis that the Commission Staff does to evaluate any recommendations that we are making for mitigation or enhancement measures, and their effect on project economics; and those recommendations are made to the Commission, the five Americans appointed by the President of the United States.

Yes, sir.

MR. LEE: Kitch Lee, PCR. They've done the archaeological studies. Do you have any plans or projects to develop the Greenfield Memorial in Northfield?

MR. HOGAN: We're having a real hard time hearing you. Would you stand up and project, please? Or come up and use the microphone?

MR. LEE: I just was asking about the Kingfield Memorial in Northfield by the river, whether there's a -- plans for making more than a little sign.

MR. QUIGGLE: I think that's something we will get to as part of this scoping process, to see what interest is in the public, and then as FirstLight enters into their study scoping thing.

MR. HOGAN: So if you feel that's an appropriate issue to raise tonight, please do so.

MR. (inaudible) Yes, I do.

MR. HOGAN: But you raised it as a question. I want to hear it as a statement.

AUDIENCE: I didn't hear the question.

MR. HOGAN: The question was, or the comment, if I can paraphrase is: And I didn't quite catch the memorial --

AUDIENCE: Kingfield Memorial.

MR. HOGAN: The Kingfields Memorial, something more should be done than is currently being done; right now there's only a small plaque, and -- did I paraphrase that well?

MS. TUFTS: Also, Jenny Tufts again from Northfield.

I'm not aware it's called a memorial. There is King Phillips' Hill, which is a site that's been identified

as a historical site; and there are some signs up there with a little history and some trails.

And some questions about what's really there. So that may be --

MR. LEE: Yes. I'd like to see it expanded.

MR. HOGAN: Okay.

MS. TUFTS: It's about a ten acre parcel that's owned by the Town of Northfield. And there have been some archaeological studies done there by the University of Massachusetts over the last 40 or 50 years, but a lot of that information isn't public information, actually. It's been kept rather quiet.

MR. HOGAN: And is it --

MS. TUFTS: And that's at the request of Native American tribes, actually, that it be kept --

MR. LEE: I wonder how far that is from the river.

MS. TUFTS: It's on the river, right on the river.

MR. HOGAN: Okay. And in the Turners Falls project area?

MS. TUFTS: Definitely.

MR. HOGAN: Thank you.

Yes, sir.

MR. MERRIAM: Bruce Merriam, Montague.

I was just curious, this summer, are FERC Staff members going to be in the area? Are they going to be available if we want to take them on a tour of the river and show them different things?

MR. HOGAN: I have no plans for that right now, but if we determine that it's appropriate and necessary, that could be done.

All right. So that's what we had for what we've identified in Scoping Document 1.

Public Comment Section

MR. HOGAN: What I'd like to do now is, I'm going to call the next person to speak. I'm going to call the next person to speak, and the follow-up. So the follow-up person, I'd like to have you, for efficiency purposes, move to the front of the room, take a chair, and then when the current person speaking is done, you can assume the mic and I'll call the next person. So we'll just keep things moving along.

It's 8 o'clock. Like I said, I will take a break at 8:30. It will be a ten minute break, and then we'll continue on until we're done.

Yes, ma'am.

AUDIENCE: I know I have to be home soon, so I guess -- what is the order of the list?

MR. HOGAN: I actually do not have an exact

order. I have sheets. I've had one request to go first.

What's your name?

MS. DOWD: Jean Dowd, D o w d.

MR. HOGAN: Okay, Jean, you're on deck for second.

MS. DOWD: Okay, thank you.

MR. HOGAN: And then I'm not taking any more special requests.

(Laughter)

MR. HOGAN: Leena; and Jean, you're up next.

MS. NEWCOMB: My name is Leena Newcomb, and I own a cottage on the horse race section of the Connecticut River here in Montague, and it is on the project lands.

I've been asked to speak on behalf of the River Residents Association. We are dedicated to preserving a life worth living on a river worth loving. And in the back of the room our photographs that were prepared, that show some of our concerns. It's not all-inclusive, but it does show many of our concerns, and it also shows some of our properties and the investment in remodeling we've done.

The Association is comprised of people who own camps, cottages and homes. There are 24 of us on project lands. There are also private landowners and homeowners, and members of private clubs that recreate on the Connecticut River within the Turners Falls and Northfield,

Mass. section of the river.

We're concerned for the future of this beautiful natural resource as well as our existence along the river banks. We take exception to it being called the 'lower reservoir of the project.' And yes, we're emotional. We're passionate, because we live here and it means a lot to us.

As many of us live on this river, we see things changing, sometimes on a daily basis. Our major concern is the negative effects we see occurring from extreme erratic water level fluctuations. The following are some observations by people who live and recreate along the river, and many of us have spent decades here.

Observations included but not limited to: shifts in the shoreline and riverbed, erosion along the shores, loss of recreation areas that allowed boat access at one time, now have no shoreline, only steep banks to climb up. Lack of adequate tenting facilities, silt and sediment buildup, sandbars that come and go, algae growth in Barton Cove. Damage to personal property at low tides, meaning we have torque damage to our docks, our boats get stranded on rocks and stuck in mud, and we're also concerned about the wetland cattail marsh habits; we see them changing and we see them vanishing.

Land mass loss around the islands, sand bank habitat for the swallows; they're gone. Beaches appear and

disappear within hours some days in the summer. And I say the summer, because I don't know in the winter. I'm not out on the beach.

Backwaters, shallows, coves and the depths diminishing. Less herring, osprey and Kingfisher sightings, less dragonflies seen. Changes in fishing bounty, fish egg nests exposed at low tides drying out and dying, and waterfowl breeding grounds unexpectedly become submerged and the offspring being drowned.

Those are just some of the things that we see that we as a group were able to make a list of that we wanted to share here with FERC and FirstLight. We believe everyone here wants to work together, to ask the right questions and find effective solutions; and we feel that we, the River Residents, are an integral part of this process.

Is there a way to create moderation or eliminate altogether dramatic water level fluctuations? Can it be and should it be regulated differently"? And for the record, we are in favor of the research of a closed loop system that we've heard mentioned a couple times over the last few days. A true, man-made lower reservoir that would allow the river to return to its natural state.

Our other concern is about our continued existence as residents along the river. Most of us in this association are camp owners with a license agreement

allowing us to occupy the land. Our existing structures are a historical use that began back in the early 1920s; and the previous licensees for these projects issued permits to manage their use.

Prior to 2008, the previous licensors, and I couldn't possibly tell you who they are, but many of us have timelines of how things changed hands with the companies selling. Previously the licensors did not seek Commission approval of these uses and occupancies of the project property; a minor technicality in paperwork and documents. Someone dropped the ball along the way. We owe great thanks to Mr. John Howard of the Northfield Mountain Pumped Storage facility for noticing this oversight. He realized there was no mention of the existing residential and private structures, and he took action to correct this.

An application was filed in October of 2008. It requested the Commission give authorization to issue revocable five year licenses as well as life use licenses, otherwise known as permits for some, for us on the lands at the Northfield Mountain and Turners Falls hydroelectric projects.

The Commission granted what is called an order modifying and improving non-project use of project lands and waters. And that was issued in October of 2009. As licensees, we are mandated to do certain things. We're

inspected once every year, and to be in compliance with the terms FirstLight Hydro Generation Company sets forth.

As you can imagine, it is very unsettling to not know if all our love, sweat and money spent on our river homes will be for naught at the end of a five year license. The power company reaps many rewards using the river to generate power, and for nearly 100 years our families have lived and recreated on this stretch of the river.

My grandchildren are now the fifth generation to grow up at our cottage, learning to swim in the river, fostering a love and respect for the natural world provided by this incredible watershed. We see ourselves as assets to this majestic waterway; and yet we have no reassurance that we'll have any future past five years. It's a very one-sided situation and tenuous position to be in. We act as caretakers, we are self-appointed stewards. We are the eyes and ears of the woods and the water. We investigate smoke sightings in the woods and have aborted forest fires. We provide shelter and rides to canoeists that are caught in storms, tow boaters who are out of gas or with broken engines or props. We rescue anglers and others who fall overboard and can't swim, rescue kayakers who flip during cold water months, pick up countless amounts of trash after the weekend warriors leave Sunday night, and we assist novice boaters and escort-weary paddlers, rescue women in

labor off the water and get them to hospital; and sadly, we even help search for bodies.

As proprietors of our footprints, we take seriously the investment in our life-style on the Connecticut River, both financially and emotionally. The majority of us have remodeled and made improvements to our properties; they really aren't camps any longer.

We have taken great pride in bettering our environments and we have given gladly, and we are gifted by the beauty, serenity and solitude that the river offers. We delight in her recreational diversity, we celebrate family and friends, generation after generation, and we continue on year after year in blind faith that our five year licenses will be renewed. Does this seem equitable?

We realize that, we make the assumption that you, FERC and FirstLight want us to continue to be on project lands. It would be nice to know how the Commission and how FirstLight really views us. What laws, if any, protect our interest. We really don't know and we would like to know.

We'd like a clearer understanding of how the licenses are administered. We were under the impression that FERC governs over the use of the lands; however, according to the language in the order approving us having use of the project lands, it appears that FirstLight Hydro Generation Company makes the decisions governing us, the

licensors.

Does FERC have any say in our interest? And is there a liaison within the FERC organization that can work with our association in helping us better understand our rights and our responsibilities? How can we alter the current arrangement to meet our present and future needs? And as always, we're very, very happy to meet with John Howard and Beth Fazzler (ph); they have always extended themselves to us and we've dragged our heels in getting organized for a while now, even at their request. So we did it finally, John.

We respectfully ask for consideration in lengthening the license term commensurate to the number of years approved for FirstLight Hydro Generation Company's new license to operate, beginning in 2018. And what is the procedure to effectuate this?

We endeavor to continue to assist and promote and ongoing cooperative relationship with all parties' interest in mind. We are dedicated to a life worth living on a river worth loving. We thank you for your time, and we respectfully submit this inquiry and the photographs to the Commission.

Thank you.

(Applause)

(The documents follow:)

MR. HOGAN: On deck will be Paul Nowill.

MS. DOWD: Hi. This is Jeanne Dowd, I'm from Greenfield.

I came here from the kennel; I work with homeless animals. I also work with poverty. There's 50 million kids in poverty. So I'm getting used to speaking for those that have no voice. I'm getting used to contacting congressman and Senators and making my voice known.

Some of us are good at research, some of us are good at speaking. I was in research and I conducted studies for 15 years for the federal government, and I was a senior statistician/economist. Now, studies can say what you'd like them to say.

So today I'm here to speak on behalf of fish. I wrote this on my way over from the kennel. I'm here on behalf of migratory fish; their habitat, their spawning ground -- which is being systematically exterminated. Their first life, black hole, there's sludge, and the stressful conditions including the switching stations' current changes, turbines,
the slicey-dicing and coe is the pond.

The federal trust shad, the endangered sturgeon and other migratory fish on the river run during spawning-migration season. I know you're all wondering why I'm mentioning -- this seems redundant to you. However, I

waited for an hour and a half to speak my mind to FirstLight.

I'm here also today to relay to FirstLight the outrage and anger which is felt by children. They connected the dots for me. They discovered that FirstLight was the source of the cause and effect the decimation of their beloved fish.

This past March-April-May we took a group of elementary, home-schooled, whole life learners from Greenfield and all the children down to Holyoke to enjoy the first visit to the Holyoke Hoist to examine the river migration. They were thrilled when they could visibly see thousands of fish through the window, waiting to be set free after being lifted over the dam to swim to freedom and to go to the ancient spawning grounds near Turners Falls.

The children, they counted and watched, they tallied the numbers. All the people there, I heard a comment, someone said to me: "You're from Greenfield. They're killing the fish there." I turned, I had no idea what they were referring to. I gave them actually a dirty look; I was very proud of my town.

The children continued to watch as these migratory fish looked out the window. They were ready to go, and they made it, they made it over the dam. Unfortunately, after they were released, we followed up with

a visit, a trip to Turners Falls' ladder, and we did so on and on, many visits throughout the migratory season. What did we all see? We saw a very dirty window and no fish.

Ninety percent of the fish were gone. The children were wondering why the water was filthy, and they saw no fish. We had to do research, we had no choice. What they learned was heartbreaking. So that's why I'm here to speak for them. They deserve to have a clean river, to see the fish fulfill their lifecycle, to migrate as they had for thousands of years and only to return to the sea.

Why can't we find a way like they did in Holyoke? It's costly, I know. So we're looking forward to recommending maybe more studies that might help initiate something along those lines. And our question, I guess at the end of the day here is: How have you adequately protected the endangered shortnose sturgeon, the federally protected shad and other migratory fish?

This is our heritage river, as President Clinton who was from my mother's state -- and it's required, as codified under the Massachusetts Endangered Species Act, Managerial 131A, the Wetlands Protection Act, to be protected.

I'll leave that in your hands today. Thank you.

(Applause)

(Document follows:)

MR. HOGAN: Thank you, Jean.

Leena, I've got a question from Brett of my team for you.

MR. BATTAGLIA: Brett Battaglia with FERC.

Leena, you mentioned two things that you saw; changes in wetlands, you saw changes in water quality. If you could just provide me with a brief summary; A) were those changes within the input of the project. If you can give me a quick example of what those changes might have been in the wetlands you saw; and for the waterfall, did you see the nest that was set, eggs were laid, and then water was moved from the nest, was stranded or just the opposite: the nest was set up, water came and flooded the nest?

MS. NEWCOMB: I personally did not see a waterfowl nest being flooded; however, other people in our association who live in areas where the birds nest and breed have seen it; so I'm reporting what our group has observed.

MR. BATTAGLIA: Okay.

MS. NEWCOMB: And my own personal experience as a photographer, I am habitually photographing along the river; and in 2008 and 2009 there were a pair of swans -- and again, I said yesterday I know the swans aren't native; but at what point when an animal lives somewhere for a long, long time, doesn't it eventually become a native? I don't know how that works scientifically.

But anyway, I know people love them and I know people hate them, but nonetheless I think they may be indicative of showing what might be happening to other habitats along the river. Because in 2008-2009, I saw a pair of swans who had five signets, and week after week, some of us along the river who are there constantly, daily, saw these signets disappearing due to falling prey, I'm sure, to other animals.

Well, one survived. And a year later I photographed it. It's on the board back there with its parents. I haven't seen any signets since 2009 and that one teenager adolescent that seemed to have survived. I haven't seen any since. I don't know if anyone else has; I have no scientific proof, but I think it's something to look at.

And the other question was, previous to that was what?

MR. BATTAGLIA: You mentioned that you observed changes in wetlands, and I'm curious if you could summarize what those changes are.

MS. NEWCOMB: The water level goes up and down; I don't know anything about how all this works, how things grow; but I do know areas that had cattails, reeds, grasses that grew up out of the wet ground are diminished; they're not as -- the peninsulas that exist of these marsh areas and cattails aren't as prolific as they used to be; they're not

as wide, they're not as long. There used to always be one in front of the Turners Falls Rod and Gun Club cove. I have pictures on the board back there of it -- it doesn't exist anymore at all. And I'm just talking five years ago, or six years ago. It's not there anymore. In the summer you may see a couple of little grass reeds sticking up, but that's it. And there's other areas like that along the Turners Falls up to Northfield regions of the river that I'd be happy to take anyone to see them, when the weather warms up.

MR. BATTAGLIA: Thank you. That's very helpful.

SPEAKER: I can answer the first question that Leena couldn't.

MR. BATTAGLIA: I'll just ask this real quick.

Are the properties that people in your association have, are they fee based?

MS. NEWCOMB: Are they what?

MR. BATTAGLIA: Fee based. Do you pay a fee to --?

MR. HOGAN: Fee based.

MS. NEWCOMB: Yes. We pay money to be on the land. We pay for our license on a yearly basis.

MR. CONWAY: Peter Conway, Gill.

And I know that -- yes, John and Claire are still back there. So we're referring right now to the swan nesting area, and this was in last spring, right?

Yes. So in regard to your first question, where did this happen? As far as the swan was concerned, it was on Riverview Drive on the Barton Cove side. And this particular swan nested high enough, and I think she laid seven eggs --

MS. NEWCOMB: Yes.

MR. CONWAY: -- first time?

MS. NEWCOMB: First time.

MR. CONWAY: First time, and then after the first eggs were laid, the water came above her nest; and I noticed water coming up so I went and saw the eggs, and I said 'those eggs are going to get flooded out.' Well, when I went there the next day, because of the high water that happened overnight, the eggs were gone.

And so as a result of that, this swan kind of floundered around for a while. And I think probably a week or two later she laid more eggs, correct? Yes.

And so she nested for a while on those; and then perhaps three weeks after that, approximately, the water came up over the nest again, and she continued -- I think she sat there for about four or five weeks, and I don't know what the period of time is needed for these eggs to hatch; but eventually they I think just rotted or something like that.

MS. NEWCOMB: Well, but she and her mate kept on

building the nest up, as high as they could --

MR. CONWAY: Right.

MS. NEWCOMB: -- they kept on adding more and more material as each clutch died. Finally, by the third clutch, they lived, and I don't know how many. It was around five or six.

MR. CONWAY: This one made a valiant effort in that they did keep on bridging around the nest, but the water was coming in underneath and going up. So this was an abnormally high rise in the water, and she was there high enough. And as far as these -- whatever you call these little baby swans --

MS. NEWCOMB: Signets.

MR. CONWAY: -- signets, yes. I have seen them when I go fishing around where the old eagle's nest used to be; I've seen them in the past year or two. So I know that they do succeed. Thank you.

MR. HOGAN: Thank you. Paul?

MR. NOWILL: I'll be brief. My problem is with the power canal. I'm an abutter, and I believe there's excessive leakage through the canal.

MR. HOGAN: Hold the mic a little closer.

MR. HOWILL: Any water that leaks out of the canal is not generating power, and I believe now is a good time for FirstLight to repair the canal and fix the -- and

reduce the leakage. Thank you.

MR. HOGAN: Elizabeth O'Neil, I think.

Lizzy Oriole (ph)? She left.

Kim Lee?

I'm actually not sure of the last name. It looks like -- and I'm not sure of the first name, sorry. But the phone number is 413-6568 -- 7 or 9.

And on deck we have Howard Fairman.

MR. LEE: My name is Kitch Lee, PCR.

A very brief information, basically. I know that you have a storage facility that's going to be increasingly used for changing a grid. Basically the wind power generation is increasing in this area, in ISO market.

And the hydro pumped station is important to station is important to supplement the capacity when the wind dies down, then you no more have generation therefore to stabilize that electricity energy; they probably use the pumped storage to meet that capacity, demand. So it becomes an important project.

My question or concern is that therefore the large body of water is going to be held for that occasion, and when the ISO dispatches the pumped storage to release the water all of a sudden, how much of the water is going to be released all of a sudden and affect the river rise and fall? I just want to bring that issue.

MR. HOGAN: Thank you.

(Applause)

MR. HOGAN: After Howard we have Karen Evans -- I'm sorry. After Howard we're going to take a break, and then Karen Evans will be up.

MR. FAIRMONT: For the record, Howard Fairmont F a i r m a n from Vernon, Vermont.

I, since the 1960s, have independently studied New England's energy supply and its seasonal aspects, which include GDF Suez, which you may have noticed along with FirstLight Power Resources. GDF is Gaz de France, and Suez is the original Suez Canal Company, which is now in the energy business.

A small sidelight that you may be interested in; earlier on it was mentioned, where can you see the Connecticut River as it used to be before development? And the answer is, the longest such stretch is north and south of Sumner Falls, which is between Hartland, Vermont and Plainfield, New Hampshire, or if you prefer, below the Wilder Dam and above the Bellows Falls Dam.

Someone mentioned quite early in this discussion that the scale of Northfield Mountain Pumped Storage is truly astonishing, and I'm going to give you a bit of practical information to give you an idea of the true scale of this project.

It has been mentioned that the total generating capacity is 1100 megawatt. I come from Vermont, population 635,000. The most electricity we have ever used was 1100 megawatts. In other words, in any circumstances, Northfield Mountain can power the entire state of Vermont all by itself.

Now in that regard you may have noticed also in the presentation they referred to when they're pumping, they're pumping 15,200 cubic feet per second; when they're generating -- that's 15,200 going up the mountain -- when they're generating, it's 20,000 cubic feet per second coming down.

I don't know about you, but cubic feet per second don't mean anything to me; so I converted that into gallons, at 7.48 gallons per cubic foot. So that's 114,000 gallons per second going up the mountain, and 150,000 gallons per second coming down the mountain.

Well, I still had trouble visualizing that. But living on the railroad in Vernon, I see tank cars all the time, so I took a look at the GATX website; they are the leading lessor of tank cars in the United States. They said that their capacities range from 10,000 to 30,000 gallons.

All right, so let's say 20,000 gallons per tank car. that means when they're pumping, they're 6 tank cars per second going up the mountain, or a 340 car train going

up every minute. When they're generating, there's 8 tank cars per second coming down the mountain, or a 450-car train coming down the mountain every minute.

Now the official history of the New England electrical system tells us that when Northfield Mountain was originally built, it was built essentially to deal with certain emergencies. The original motivation was, the Great Northeast blackout of the 1960s. You can't restart a grid unless you have electricity, and they any electricity with which to restart the grid. Northfield Mountain was one of the projects built to make that happen.

Now I got interested in this because I was watching the counts of American shad and the percentage that made it from the Turners Falls gatehouse to the Vernon fishway, which is not far from my house, and I noticed that after 2004, the percentage of American shad that made it up there, and all they did was pass up the Turners Falls reservoir, decreased drastically.

Now the only thing that's happening in between is Northfield Mountain pumped storage, this enormous quantity of water being taken out of the river and going back in; and the big difference between the original intent of Northfield Mountain and the way it runs now is that now it's a merchant power plant, and as you can read in the scoping document, they cycle it almost every day. So almost every day they

bring the reservoir down, and they bring it back up again -- this during several hours.

Now I'll remind you, I said that's a 340-car train going up every minute, this during many hours. And a 450-car train coming down every minute, once again during many hours. That is a huge quantity of water. And my purpose here, and what I'll be doing during this is to make sure that we have a thorough study of the environmental impacts of such an enormous quantity of water being moved on a daily basis between the upper and lower reservoirs.

Thank you.

(Applause)

MR. HOGAN: Thank you, Howard.

Question, Leena?

MS. NEWCOMB: May I make a comment?

MR. HOGAN: Sure.

MS. NEWCOMB: Leena Newcomb. I would just like to say thank you to this gentleman, because he's the first person that's ever created a visual for me that explains why I can sit on my dock and watch my ledges in an afternoon get covered or uncovered while I sit there. I've never known how that much water could move that fast. Now I do. Thank you.

MR. HOGAN: All right, let's take a ten minute break, so we'll reconvene at quarter of 9. And Karen is up

next to speak.

(Recess.)

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MR. HOGAN: Let's restart, folks. Karen Evans is next, and then Brian Kenney on deck.

MS. EVANS: I'm afraid my problems don't impact too many people but myself, but my property abuts FirstLight property and I spoke earlier and angrily about problems I've had with bad behavior. And I'm hoping we can come up with some way to make more of a presence, a civilized presence known in that park area, where it won't be the place where you can do anything that you can't do anyplace else.

The other problem I have is on the back of my privately owned property, I have a very steep bank where I own the bank, but FirstLight has an easement along the riverbank; and in the five years I've lived in the house, eroded substantially. I know this because the kids can't walk by anymore; and last year they were in fact cutting down trees to try and make a better path for themselves.

And it's hard for me to manage my bank if I can't control the edge of the river. So I'm hoping something will be figured out here. Thank you.

MR. HOGAN: Thank you, Karen.

Brian?

And on deck we have Bruce Merriam.

MR. KENNEY: My name is Brian Kenney. I'm the business manager of the International Brotherhood of Electrical Workers, Local 455. And I represent the employees at both Cabot Station and Northfield Mountain.

I don't live in the area here, so I really don't know a lot of the issues that you're talking about, but I do however have a 17 year relationship with the managers and the employees of the company here.

These are skilled, well-paying jobs with good benefits. Most of the people that hold these jobs live right here in the community. They own homes and their children attend schools here. The wages earned toward property taxes and spent in businesses in the area. The owners of the plants are among the largest property taxpayers in the area. The community depends on this tax revenue to fund its schools, police, fire departments, et cetera.

The plant, when outside help is needed for repairs and upgrade, uses local companies to supplement the work force. Local vendors are used for supplies or when equipment needs to be rebuilt or replaced. Although at times we could have our typical union management issues with the company, the one thing we have never had to do battle over is the company providing a safe, responsible workplace here at Cabot Station and Northfield.

GDF Suez, as did their predecessors, have proven to be good, responsible stewards of the resources they have been entrusted with, and in my opinion they should be granted a renewal on their license. Thank you.

MR. HOGAN: Thank you, Brian.

Bruce. And on deck we have Jeff Squire.

MR. MERRIAM: My name is Bruce Merriam from Montague. I'm a 32-year member of the Turners Falls Rod and Gun Club, which for you people that aren't familiar with the area, is just upriver from the Turners Falls Dam. I'm here tonight representing the 16 boat owners from the Rod and Gun Club. We have 16 boat slips there. I've had a boat there for 18 years. I've been on the river for hundreds of hours every summer during boating season.

Every year, every single one of those 18 years, at least once, sometimes more than once, it's always on a Sunday for some reason; FirstLight and Power or Northeast Utilities before them, for whatever reason would drain the river way down; it would be right to the top of its banks on Saturday night, you'd come down Sunday morning to go boating and there was no water.

One of the worst times I have experienced was this last year, July 29th. I was at the Rod and Gun Club, the club hosts the annual Northfield Dive Team's clambake every year. I was out on the river the night before because

the Franklin County Boat Club hosts a Christmas in July the last Saturday of July every year, with fireworks down at Unity Park. The river was right to the top of its banks on Saturday night when we came back upriver after viewing the fireworks. I came down Sunday morning, they had to have dropped the river a minimum of five feet.

Our boat ramp, you could get your boat down the boat ramp into the water, but then you could never get your boat out through the narrow channel that we have to use to access the river. The Gill state ramp over in Barton Cove, that was inaccessible to boaters; and I know the one in Northfield was, because the river was just too low.

And it stayed that way all afternoon, it never came up until shortly after 6 o'clock that night when a news piece aired on the NBC station in Springfield, Channel 22, who I had called up to do a piece on how low the river was. Miraculously, within 10 to 15 minutes after that piece aired on the 6 o'clock news, the water somehow miraculously started coming back up, like somebody had opened a gate somewhere.

They're taking away one of the best days of the year, the last of July. The weather was perfect that day. Boaters were not able to access the river; even if you had a boat in the water. There were boats at the Franklin County Boat Club that were high and dryers, sitting in the mud.

They're taking away a day of recreation for us boaters, and boating season in New England is extremely short to begin with.

I've got picture that a fellow club member took showing how low the river was, which I will give to FERC to look at. I've also got an article from the local newspaper, the Greenfield Recorder, because they came down and did an article and took a picture.

And what I would like to propose as a solution to this problem, I'm not arguing or contesting the fact that FirstLight was within their nine foot limit for pumping the river down; I'm sure they were in their permitted right. But I think to alleviate the problem in the future, FERC should mandate that FirstLight and Power hire a dredging company to dredge the channel that the Rod and Gun Club and the channel that the Boat Club and the boat users over at Barton Cove use to get in and out from the State boat ramp as well as the one in Northfield; dredge it down so it's deep enough and wide enough. And I think they should also be mandated to extend the length of both the ramps, both in Gill and Northfield, out into the river further so when they do lower the river as low as they do, from time to time, boaters will still have access to the river.

I would also like to suggest that FERC study the idea of a closed loop system, that's been brought up.

MR. HOGAN: Thank you, Bruce.

(Applause)

(Documents follow:)

MR. HOGAN: Jeff, and then on deck we have Kirk Hettinger.

MR. SQUIRE: My name is Jeff Squire, I'm a resident of South Hadley here as a representative of the Western Massachusetts Climbers Coalition. So I'm going to shift from the water to the other end of the spectrum.

We're a climate organization that was founded in 2000. We're a 13-year organization comprised of 500 members, roughly, all over the country. We are an advocacy group for preservation of recreational resources, primarily climbing resources, and improved access to them.

As climbers, we are -- our situation is a little bit more difficult in that our resources are finite resources; quality, rock climbing resources, access to them, are very limited; and we're fortunate and blessed to have an abundance of them in this section of the State. And Rose Ledge and Fairleigh Ledge, both within the Northfield project, are two of the best climbing resources in Southern New England. They get visitors from all over the Northeast and all over the country, for that matter, for visiting folks.

I don't want to take a lot of time. I want to echo, in regards to the user surveys, echo what Stef said earlier about providing user survey opportunities on-line, maybe working with some of the local recreational groups,

advocacy groups, to distribute some of these surveys; because I know that at least from a climber's perspective that the way we access the cliffs, we're never going to see the cards posted at any of the stations.

So I'd be happy to work with whoever is responsible for distributing the surveys to figure out a way to distribute those to a significant user group of those areas.

And I'd also encourage FERC and the Northfield project to work toward improved protection of some of these recreational resources. We wrote an award-winning management plan for Farleigh Ledge in 2003; we funded a biological survey in recognition of Peregrine falcon habitat, which the habitat -- they returned to the cliff in 2007, having been absent from this part of the State since the early Sixties, late Seventies; and they've been returning to the cliff ever year since; and we've worked with Fish & Wildlife and implemented a successful protection strategy to have them return to the cliff.

We've recently purchased land, in 2007, at the base of Farleigh Ledge abutting Route 2, and the Northfield property in an effort to protect the ledges from development encroachment and to protect the climbing resources; and we've also worked intimately with the AMC and DCR in rerouting the net and creating unique hiking opportunities

up to the ledges.

And in speaking to, scenic vistas I think was brought up earlier, some of the views from the top of Rattlesnake Mountain, which is facing south towards the Millers River Valley, I think are some of the most significant views of that section of the valley. You're looking across Wendell State Forest, largely undeveloped forest land; and I think in terms of aesthetic resources, that's one that should be considered. So thanks.

(Applause)

MR. HOGAN: Kurt?

SPEAKER: I think he had to go.

MR. HOGAN: Liz Austin.

And on deck we will have Patricia Crosby.

MS. AUSTIN: Hi. I'm Liz Austin, I live in South Hadley also, I don't know where the gentleman climber went, but. I work at the Holyoke Dam; I'm the Director of the Public Programs. I have worked there in the spring for the last -- well, 2002, each spring, so I have a familiarity with the fish passage process; also just being on the river that much time each year. I'm also on the Board of Directors for the Connecticut River Watershed Council.

I feel like I'm here primarily -- I'm certainly not here speaking for the Holyoke Dam folks because they don't even know I'm here -- but I'm really here as a citizen

concerned about our river. I want to speak to a couple of sort of bigger issues, but then some specific things.

First to say, this is something we all know, the federal government allows corporations to come and use our river to develop power and then sell us the power and make a lot of money. And they do make a lot of money. If they can provide enough power to, for the whole State of Vermont, they're making a lot of money; they would not be doing this if they were not making money. So they're taking our resource and benefiting from it by making a lot of money.

And so I also feel like -- this is not in my statement, but I feel like we need to change sort of the corporate culture, because I feel like in our country today corporations, the way corporations operate is: 'We want to do as little as we can possibly do for our society, for our citizens, and get by with it.' Rather than 'We want to fall all over ourselves trying to make it right.' And that's FERC needs to make sure, that these corporations are making it right if they're coming and using our resources; that we need to make sure that they are falling all over themselves when they are coming in, putting up dams.

The dams, as you know, delay or stop the fish from migrating to their spawning grounds. They delay or stop them from returning to the ocean. The fish are exhausted trying to climb these almost impossible fish

ladders in certain spots, Cabot being one of them. Fish are impinged on trash racks, they're killed in turbines when migrating, and if that's not enough, the changes in water levels erode the river banks and change the topography of our wetlands that provide a variety of habitat for wildlife. The dam and the water levels affect the use of the river by people living in the area. Harm is done, pursuit of power generation, and I know you've heard about a lot of this in the last few days.

So I ask FERC to adhere to a no-harm-done policy. In the case of Northfield, I posit, as many people have tonight, that -- well, I posit that we have been in a trial period -- this is Northfield's first relicensing. They were licensed, and this is the first time. So this is their trial period they've been in. And I think they have not done so great; they've created a lot of problems.

The water level changes have caused substantial human, river bank and wildlife problems, and I think these could be alleviated by a closed loop pumping system, and I ask that that be considered. I also ask that radical changes be made in the fish passage system at Turners Falls.

There are many, many other things that have been brought up by other people that I don't want to duplicate, but I also want to say that I was fortunate to go on the tours of the projects this past fall, and basically no

attention was paid to the environmental education programs at Northfield Mountain, and the Turners Falls fishway on the project tours. That was my experience, that I did not experience that that was covered in those tours.

And I think the cutbacks, I know there have been cutbacks in the environmental education programs at Northfield Mountain, and I think that should be investigated by FERC to find out exactly what has been cut, and why has that happened. And also, that we need -- that I would also ask FERC to look at how the fishway can be -- how that can be maximized as an environmental education opportunity.

In addition, the fishway at Turners Falls is not handicapped-accessible. That anybody who cannot walk up and down two flights of stairs cannot see the fish that have climbed the ladder and are going by the window. So it's really an inadequate public facility in that regard. Thank you very much.

(Applause)

MR. HOGAN: Thank you.

Patricia Crosby.

Thomas Shearer.

MR. SHEARER: This is a letter to FERC.

We own the first privately owned parcel upstream, approximately a thousand yards upstream of the Northfield Mountain Pumped Storage Project. We have a verbal agreement

with Chuck Momney of FirstLight for a repair of a previous repair of the Connecticut River bank done in 1996.

The promise is to do it this year or next. If this agreement is not fulfilled, as has happened in the past, we would like to reserve the right to bring it to your attention in a couple years.

Signed, Thomas R. Shearer and Patricia Shearer.

(Applause)

(Document follows:)

MR. HOGAN: Looks like Don McCool.

And on deck we have Stefanie Kenney.

MR. McCOOL: I actually don't have anything prepared, but I decided to come up and speak anyway.

I just share with everybody here a real passion for the river. I just love this river. I am out on the reach that I enjoy three, four, five times a week in middle-late summer, into October, and I am not able to use that river a lot of times, the water changes so rapidly and extremely.

Now this is a section of the river, it's between 116 where the bridge is and the dam here in Turners; it's never going to be a piece of river that's good for power boats and a lot of activity, and water skiing. However, I have a boat, it's a rowing shell, it draws a few inches of water. And there are days when I can hardly go anywhere with that boat. It happens quickly, it's unpredictable, and it's frustrating.

It just brings to mind the fact that -- just remember that FirstLight doesn't own the river. They don't own the water; we're letting them use it. Somebody's making a lot of money somewhere. It's some guy on Wall Street in a big, tall building; it's somebody in England or in like the Suez Canal in Egypt, wherever the hell they're organized out of -- who knows? They don't care. They don't care. They

don't care that I like the river. They just want to make some money off of our water.

We need to -- I don't know what to do. I just think they need to be responsible. My personal little niche is "I would like a little trickle of water to be going down the river all the time." I don't know that that's too much to ask; I mean, it is a river, and it flows downhill. It doesn't always flow downhill very much.

I think they're abusive and arrogant, and a few other A words, and then we can go to B and C and D and E and F, right down the line. I think they don't give a damn about anything about the money they're making. And I guess I'm done. Thanks.

(Applause)

MR. HOGAN: Stefanie, and on deck is Andrea Donlon.

MS. KRUG: Hi, I'm Stefanie Krug, I'm a resident of Greenfield, and I'm the President of the Pioneer Valley Chapter of the New England Mountain Bike Association. And I'm here to talk about Northfield Mountain as a recreational destination in the area.

So I think, as was mentioned before, FirstLight on their website, is probably advertising their recreational trails that they have there, over 26 miles of trails; so I kind of came up with notes, but I can't really read my

handwriting all that well, so I know there's an extensive multiuse rec trails that are utilized by various user groups. A lot of horseback riders go out there every weekend. There's a lot of hiking, mountain biking -- as we heard from Jeff, rock climbing -- not to mention all the water-based recreation that's in the area.

I know the M&M trail runs through part of the Northfield Mountain trail; it comes very close to the Northfield Mountain trail system, connecting the Northfield Mountain trail system with trail systems in Irving and Wendell and further north, too.

So a couple of things I would like to bring up with that. I would like to add another point to the socioeconomic study, because I know tourism in the area, there's a lot of recreation-based tourism in the area, so Pioneer Valley has been referred to as the outdoor adventure capital of New England, and not only the water-based recreation, but also the trail systems and other things that I think could have a big impact on the socioeconomic state of the region.

My main goal of speaking up is to ensure the continue public access to the recreational facilities that are already in place now. As part of that, as I mentioned earlier, I would like to see the user survey access to be made more publicly accessible, so they have a website and

have the link published and maybe the full survey published in the various newspapers going around; because I'm pretty sure most user groups would not come across the survey other places; and then we can distribute and make sure it gets to the right places.

So from my personal experience, I have been hiking and biking and skiing Northfield Mountain for years and I love the varied terrain there, the breathtaking scenery; and it's so conveniently located; close to 91 and Route 2 that it's really easy -- easy access, there's great parking which is a lot more than a lot of other trail destinations have, plus it has the nice facility at the bottom; so I think it could be even more than what it is now and has the potential to be a recreational destination that could even draw in more tourists from other areas, too.

So in the future, I just want to make sure that continued public access is going to be maintained/protected; and also in addition I would like to see if there's something that could be put into place to allow for a better maintenance and improvement of the already existing trail system. A lot of the trails there -- they're really nice. I think some of them are not very sustainably built and have had some erosion. So if those could be evaluated for the impact, make the current trail system for the impact on the ecosystem around and for signs of erosion, and seeing if he

could improve those.

And then also if there could be put into place a process to allow for permitting of maybe developing more sustainable trails in the area to take advantage of the nice varied terrain there and allow even more use of the facilities.

One last thing, I have no idea how this -- I know the canal side bike trail falls on FirstLight's property; I don't know if there's any interest in possibly extending that further along the FirstLight property, further down the river, because I know the public would love to see more bike trail, and maybe even connecting it with other bike trails; but I don't know if this is the right group to talk to about that.

MR. HOGAN: It is the right group. If you'd like to elaborate on that point, that would be great. And I had a question about your second to last bullet, about the permitting, about the trails, I didn't quite understand.

MS. KRUG: So if an organization like the New England Mountain bike organization or the AMC, but who has substantial training and experience developing sustainable trails for recreational purposes. In the past we've attempted to talk to FirstLight and people there to see if they could possibly put in another trail or extend the trail, reroute the trail, and I think there were issues with

liability if we could build a new trail; and I think any kind of effort usually helps that.

So I don't think there's a process in place at this time that would be, like step one to get a permit, step two would be this, and then -- so I think if you could develop some kind of process, a feasible process to develop sustainable trails in the future and add to the trail system.

MR. HOGAN: Thank you.

MS. KRUG: I guess, I'm related to this -- I know on Tent Mountain, it's a high road on the right hand side of the Northfield Mountain; it used to be -- over the recent years they had to dig in very deep water bars that now make this really difficult to navigate. I'm sure horseback riding, I know biking makes this really difficult. I don't know if that could be, maybe if the water bars could be put underground and filled in so that you could still use it safely.

I've had two people go down rather hard and end up with various injuries because they had gone down in an unexpected spot.

And to talk about the Ken (inaudible) bike trail, there's a lot of development -- I don't know if you're familiar with the Normatec bike trail that goes from Belchertown through New Hampton and up into Florence and

East Hampton. There is talk about extending bike trails all the way from Boston through the State, and tying them into bike trail systems up in like Vermont and Keene, New Hampshire.

I don't know where the process is at right now, but -- I don't know who funds all of these, and a lot of these go along old retired rail trails, but if there's an opportunity to extend the bike trail along the river side and tie it into the rail trail bike trail system to allow even more off boat, road biking possibilities. I'm sure the public would be very much in favor of that.

(Applause)

MR. HOGAN: We've got Andrea Donlon, and on deck, Louie Dickinson.

MS. DONLON: My name is Andrea Donlon, I work for the Connecticut River Watershed Council. Our offices are based in Greenfield, and we cover the whole four state watershed.

Our organization is a nonprofit organization that started in 1952. We love to celebrate the river; it's the focal point of life in the valley, and we have published a voting guide that allows people to learn about how to plan trips on the river; and we're very proud of the American Heritage River and BlueWay designations for the river.

Thanks to the support of our members, we really

try our best to protect and celebrate the Connecticut River. It's so great to come to meetings like this and hear people speak so passionately about the river that we work for every day; so it certainly enriches my job to hear everybody speak tonight.

Hydropower relicensing is a part of our advocacy work. We take it very seriously when you have participated in other relicensings; namely the Holyoke Dam and Fifteen Mile Falls, which is upstream of all the facilities that are going to be relicensed in this group.

As people have mentioned, water is a public resource and historically, or as long as my organization has existed, and we have always recognized the balance of uses of the river, economic uses, and habitat and people -- recreational use. So we do keep that in mind. Nevertheless, we view our role as really working to improve conditions on the river; and this relicensing is a tremendous opportunity, you know, we're going to be planning for 40 years in the future, and so I really appreciate everybody coming and speaking about their interests tonight.

As Liz Austin mentioned, Northfield Mountain has only been licensed once, and the whole combination of Turners Falls and Northfield Mountain has greatly affected this section of the Connecticut River. People have mentioned issues like fish passage, erosion, recreational

use, and so I won't go into those; but we certainly will be providing comments, study requests, participating in this whole process on all those issues.

Importantly, the shortnose sturgeon habitat, very important part of the river, downstream of the dam, feel that the effects on the habit have been neglected up until this point, and I certainly hope that improvements will be made as a result of the new license.

In terms of recreational use, I would also like to encourage you guys to use our organization to get out to users; we can send out eBlasts and that type of thing -- I think an electronic survey is a good idea that people have mentioned.

One thing that people haven't mentioned is there used to be an eagle camp that the company sponsored, and unfortunately the branch or the tree broke, and so that nesting site is no longer available; and it was not part of the license, it was optional; but it was very popular. I loved looking at the nest on line in the spring.

People who came to the fishway also had a feed, I think to the camera or at least there was a spotting scope. Public access, TV, had like 24 hour coverage of this eagle's nest. People watched it. It was very popular. So it would be nice to somehow make a substitute program that would take the place. I don't know if the eagles have established a

new site and whether a camera is possible there, but I think that was really a neat educational thing that the company provided to the public.

Another issue is, that people have brought up but the camping on the river -- FirstLight provides the only official camping along the river in Massachusetts. Every other spot downstream is just, you kind of have to do it maybe asking landowner permission, maybe doing it illegally; but it's my understanding that those facilities, at least the Barton Cove campground, they close after Labor Day -- is that true -- so that does shorten the available -- I know we get calls from people who want to do trips on the river in September, it's a great time of year, beautiful weather, water is warm, not as many motor boats, so it would be nice to extend that season. And that's all I wanted to say tonight.

(Applause)

MR. HOGAN: Louie Dickinson or Roy?

Our last speaker of the night is John Bennett, who has indicated to me that -- Okay. Name?

MR. SNEDEKER: Greg Snedeker.

MR. HOGAN: Greg.

MR. SNEDEKER: I'm up?

AUDIENCE: Resident of Gill.

MR. SNEDEKER: Resident of Gill.

Hi, Greg Snedeker, resident of Gill. I just want to say a couple of things.

I tend to, I've been listening to a lot of people with their own narrowly focused concerns, and I sort of go along with all of them. My experience, I've lived on the river for 20 years, and I have a family, have a boat on the river thanks to a nice dock permit issued by FirstLight. So I have a lot of connection to the river.

Also was the head assessor in Gill for three years, so I understand a lot of the land uses around the river. But my main concern -- I'm going to try to do a little -- and I'll try not to take too long. But I tend to look at the really big picture. And what I see is, what we're talking about in terms of this license, for five different areas, is a global concern. And hear me out, because if you look at what's going on right now in the world in terms of energy, you look at -- if you know anything about your return, your net yield on energy in terms of oil.

Anybody know what that is?

Over here. Keep you guys awake.

(Laughter)

What is in relationship to natural gas? You guys are the ones regulating this.

MR. HOGAN: This is hydro. We do hydro.

MR. SNEDEKER: Okay, fine. But the three are tied together, right? So we got oil, and sweet crude oil really is about 101, it's the most powerful thing we have on this planet. And it's not a coincidence that our gas prices have risen probably 300 percent. So bear with me.

So now we're fracking like crazy. Why are we fracking like crazy? You guys are the experts: Why are we fracking like crazy?

AUDIENCE: It's an excellent source of fuel.

MR. SNEDEKER: Why? Because the net yield is somewhere around -- the net yield of energy for this is somewhere between one-third and half of the power of oil.

Now you're looking at --now that's a huge -- we have a huge gap now to make up, because we're running out of the very easy accessible sweet crude oil. So when they talk about North Dakota and these huge oil deposits way down -- they've always known about this; it's been there; 2 trillion barrels. You know, "Wow, we're never going to run out of oil."

But what they're not saying is, how much does it cost to extract it? When the extraction cost is higher than what you're going to get for the yield, it doesn't make sense to extract it. No company or no government is going to pay the money to do it.

So now we're stuck in this predicament. So we're

stuck in this predicament where you cannot extract this oil without it costing more in the extraction process, when you've got to use sweet or crude oil to extract heavier crude oil which doesn't, it's great for making plastics and things like that, but you can't run your automobiles on it.

So now the shift that you're seeing away from, if you notice Exxon and all those have been doing research in this particular -- the ship is now switching to fracking, or going for natural gas, because it is -- it's actually the next highest yield. So they're going after it like crazy, which is why you're seeing these wells popping up everywhere. The problem is that the depletion rates of these wells are very quick. The depletion rates of the wells that we actually are building in the center of our country are much quicker, I mean that they're going to run out quicker.

Now look at the fluctuation in price per barrel. Does anyone in here think we're going to go down to a dollar a gallon gasoline? (Laughter)

I mean, we don't have -- do we know what OPEC's resource are? No. Why? Because they won't give it to us. Why, because it's a cartel, and the way they operate, they don't want to give it to us. All right. So we're stuck in this predicament now of, we've got to shift to alternate sources. The demand for electricity is going to go way up.

You saw the article in the Greenfield Recorder; the robot's going to be taking over -- it was last Friday, right? The push for moving to robotic means of production is so that we can move to electricity, because 1) human resources are expensive; you have to pay social security, all that good stuff, the benefits. So we're moving in the direction of using more and more and more electricity.

So when we talk about coming down on the electrical companies, they're just giving us what we're demanding or demand more of. So as much as I don't like seeing the river go down, and as much as -- I've got a boat down there that's stuck in the mud and I can't get it out, and I'd like to be able to recreate, I also acknowledge that this morning I lost power in my house -- it was getting cold; really happy when it came back on.

So I do acknowledge that as much as, you know, everything has a trade-off. Technology has a trade-off, as much as we love science and technology, you guys are the scientific experts over here, it all has a trade-off.

So what's my point in all this? We begin to see that the electricity demand is inevitably going to go up. Now electricity demand, electricity does not have as high a yield as all these other ones; plus it's not really a viable source of transportation yet. Yet. That's why we have hybrid cards and not strictly electric, but they're coming;

we haven't figured out the storage, pumped storage. We haven't figured out a real good way to store energy yet; that's why they're working on batteries like crazy.

But here's my point. My point, which I think is the most crucial in all of this: To both the utility company and both to our government is that the license, the term and length of the license agreement is the utmost important thing. And the reason I say that is because you're talking about looking at studies that go back to the Sixties.

Now if you look at the trends in energy usage, the trends in population, the trends of almost anything -- when you just look, in terms of our usage and why we're hitting a steeper curve and why our gas has gone up 300 percent the last ten years, you're on this part of the curve. Back in the Sixties going through to 2004, you are on a very flat part of the curve. This is all technical analysis. So it's on the steep part of the curve right now.

Now what does that mean? Does anybody really know what's going to happen in the next ten years in terms of energy? We don't really have sufficient data as to what the cartels have, because they won't report it to us, and they legitimately don't want to, I understand that. But if we don't know what that research is, or even if we have vague ideas, none of us in this room -- I'm guessing the

utility company really doesn't understand, they're projections -- but if you don't know, here's the problem.

If you don't know what you're stepping into, and let's just use the river as an analogy. You don't know how deep it is, you don't know what's changed on the bottom. How often are you going to put your foot in the water to test it to see if you can actually dive into it? Pretty often.

So my point is, fifty years: way too long. I'm not saying that in terms of, I think it's a control issue that they want to come down and control what's going on for the next 50 years. I think it's bad for the public because the rate of innovation is increasing at a dramatic pace, faster than we realize. So when that's happening, you don't understand how the shift -- in the bottom of the river is shifting. It's constantly shifting; you don't know how deep it is.

So the point is, 50 years is way too long. It may be when you're looking at it in terms of the hockey stick curve way back in the Sixties. Way too long, though. Our innovation is rapidly changing, which means even 30 years I think is too long. I think it's going to be a mistake. And the reason I think it's going to be a mistake even for the utility company -- right, because maybe you're looking at it and saying "Well, we can gain some control

over this." But the problem I see with that, if you understand the concept of system lock-in -- any computer programmers?

Right. So you're the only one who knows what system lockout is, pretty much. Does anybody know what system lock-in is? System lock-in is basically -- yes, he knows what system lock-in is. System lock-in means that when you begin to take on a technology -- remember, we've got technologies everywhere. The dam is a technology. The river is a river, but it's not -- it's a resource standing in reserve.

But the point is, when technology is moving very rapidly, and the web is a great example, your capacity to get in system lock-in, meaning that you go and you make an innovation, that's a big innovation, that could be disastrous for your company. Because the minute you begin to hit the -- if you know that you have a 50 year window and you're thinking out that far, that could be actually really detrimental to your profit scheme, to everything, because you get stuck in a technology that was 1) a bad technology, and we've seen this over and over in our lives; we've seen the technology where we look at -- the benefits obviously --

AUDIENCE: Can you -- I feel like you're talking way over our heads. Can you make your point? It's very --

MR. SNEDEKER: My point is -- again, to me the most important thing is the length of time in this. Because if we don't, we're not going to visit this issue enough to make the necessary changes to be flexible in a time where we don't know what is coming down the pipeline; and things are moving much quicker than we think.

(Applause)

MR. HOGAN: Thank you. I would like to pick an opportunity just to briefly talk about this.

The Commission is authorized by Congress to issue license terms on a relicense for 30 to 50 years. It's a statutory requirement; we can't issue for less than 30 and we can't issue for more than 30, so our hands are tied on a term within 30 to 50 years. So just to let folks know, we don't have a choice in it.

MR. SNEDEKER: But just why. Why is that?

MR. HOGAN: It's law, from 1935.

And I can't revisit it. Takes an Act of Congress.

AUDIENCE: Good luck with that.

MR. HOGAN: Literally. When I first went down to Washington, D.C. someone said "that would take an Act of Congress." I said, "Well, why would it take so long?" Because growing up in New Hampshire, an Act of Congress just meant "Oh, that's impossible" or "It would take forever."

They actually meant it literally, that it would take a Act of Congress. And literally here change the term of license that FERC can issue would take an Act of Congress.

John Bennett signed up to speak; he asked me to potentially go last. He also told me he's going to filibuster me -- that's another congressional term that I've learned since I moved to D.C.

I just want to make sure that I've had an opportunity for -- and Peter wanted to speak, and just told me that.

MR. CONWAY: I'll go before him, since he wants to be last.

MR. HOGAN: Exactly, but I want to make sure that I got everybody else also.

Howard?

MR. FAIRMAN: May I? May I speak now?

MR. HOGAN: Did you want to speak again?

MR. FAIRMAN: But I wasn't sure whether you said I could do it now, or you want me to wait.

MR. HOGAN: You'd like to speak again, is that what you're saying?

MR. FAIRMAN: Very briefly, and for a clarification.

MR. HOGAN: Let's get Peter, then you'll be up, then we'll go to John.

MR. CONWAY: It's past my bedtime, guys.

Peter Conway, Gill. And I have to get up and say something, everybody, I really do.

First of all, speaking to John right now. John, you have a lot of patience and a lot of self control, I just want to tell you that. It's real good. And you had a great show.

(Applause)

And Howard, I'm not going to buy a ticket to ride on your train, by the way; I am not going to up that hill, and down as fast as you say we go.

(Laughter)

So, and Greg. Greg, I really enjoyed working with you, and I knew that you were talking way over my head most of the time when we sat together and talked, but I got you tonight, okay?

So I'm up here first of all -- and I've got to speak for myself on this, because I've got to address something that a gentleman said up here, and I don't see him here tonight -- maybe he is; he represented the employees -- he's not here anymore from what I can see, but -- and I've got to speak for myself but others may feel the same as I do. We don't have an issue with the employees, everybody. We do not have an issue with the people that work for these companies, all right?

Our issue is with the investors' demands. And because of their demands, they're changing the way this river -- they have impacted the river because of their demands; it's that simple. No more complicated than that. The people that work for these investors, they run the show the way the investors want it to work so they can show a profit; that's how it works.

And so, I mean I've talked about the fish nets and everything else; I'm not going to spend time on that. But I do live on the river, and I'm there all year long, and the river looks different in the winter than it does in the summer; you don't see as much of a change in the winter because of the ice. The only place you do notice a difference as far as up and down is when you go over to the old red bridge abutment and you can see how low it is or high it is. But you don't notice it in the winter. You do notice it in the summer.

And by the way there is a natural shoreline. If you see the river every day as I do, there is a natural level that it reaches, but it doesn't stay there very long, okay? It drops and it goes up because of demands that are needed for the power. And I think that Greg mentioned it, and I agree with him, too: I like electricity, and so I don't know how much of a compromise I want to make right now on how high the water goes, and how low it goes; I don't

like the way it works, I can't compromise that much. But I know that if, years ago when this project was first in somebody's brain, if one of the restrictions they had on it back then was that "you will build this with a closed loop" they wouldn't have built it then; it wouldn't have happened.

Because first of all, there's a restriction on what they can do down below to build a lower reservoir -- and we can't call it a reservoir, it really isn't; but it's being used as one, and that's why it's being impacted. And also, yes the impact is below the river, too. Down below Cabot if you drive over that bridge down there, you'll see the shoreline go out, come in, go out, come in depending on what Cabot station is doing and what's happening above.

And so the 20 miles of river that we're talking about from this dam and a little below Cabot, all the way up to Vernon, I think it is, 20-plus miles, it's really tearing the crap out of the river. And it's not good. I don't know what other word I can use beside 'not good'; but it's lousy. And Bruce spoke about the low river, and you see it, all the people on the river see it. The people that come in and out there on the weekends, they don't know that much difference. So they just go out and paddle around. If they get hung up and they can't get back in at the end of the day, they say "What the hell's going on?" And so they're stranded out there. But you live and learn; they don't come

back again. So that's not good, either.

What else have I got to say, because I'll tell you, my brain just comes whirling around here. And I think maybe I've got everything that I want to say -- let me see. Hang on, guys. Yes, I do. You did a nice job, too, okay?

Okay. Thank you very much.

(Applause)

MR. HOGAN: Howard, you have a clarification you want to provide?

MR. FAIRMAN: Howard Fairman from Vernon again.

This is a very brief clarification. I mentioned earlier, to give an indication of the scale of Northfield Mountain, that they can generate 1100 megawatts, and I said that can power the entire State of Vermont. What I wanted to clarify is, that's all four generators running, and that is the most electricity Vermonters have ever used at one time; it was on a really hot summer day a few years ago.

On a typical day in Vermont, just two of the four generators would power the entire state, population 635,000. Those are big generators.

(Applause)

MR. HOGAN: John Bennett.

MR. BENNETT: John Bennett with the Franklin Conservation District.

Point of clarification: I never uttered the word

'filibuster'--

(Laughter)

MR. HOGAN: That was my interpretation.

MR. BENNETT: I did say that I would go last because I had a lot of questions and I didn't want to keep people unduly.

I'm with Franklin Conservation District. We've got a statutory interest in the conservation of soil, water and related natural resources. We've actually been engaged with the erosion issue on the Turners Falls pool since the late 1980s. We were late to the party, but we've been thoroughly engaged since.

I think it's useful to point out to folks that you don't have much of a sense of what the river might have looked like in the Turners Falls pool before the dam was raised and the Northfield project started operations; but if you go downstream of the confluence with the Deerfield, the reach of the river between Montague and Deerfield, the shoreline has natural flood plain terraces and mature silver maples, three and four feet in diameter, in good health all the way down the banks and right to the water. That's what we've lost on this stretch of the river.

Issues of concern to the Conservation District include loss of land, loss of agricultural land and soils, the degradation of water quality and degradation of habitat.

And it's not just our pin but actually Julian Flint of FERC determined back in the Nineties that the bank instability on the Turners Falls pool was significantly due to the water level fluctuations, water saturating the bank and then coming out of the bank and removing fines, tended to upset the stability of the bank.

Now to the part that I mentioned to Ken was perhaps going to take a little while; this is going through the scoping document and just touching on some of the topics. The scope of cumulative effects issues on page 22 talks about water quality and one of the things that should be certain to be addressed in that is water temperature and the sediment load in the water. That may be the intent, but it wasn't clear from reading the document, so I wanted to point that out.

And the geographic scope on page 23, there ought to be at least consideration of carrying the scope as far as the Holyoke Dam, if not further.

Pertaining to the FirstLight projects, the geology and soil resources section -- or actually, that was somewhat well-addressed. It was interesting to hear it read and it mentioned cultural resources in the first bulletin, and that wasn't in the copy that I had downloaded, talking about impacted resources, recreation use facilities. I didn't have cultural resources in the copy I got off line.

But it is in there, beauty.

MR. HOGAN: This is the offline group.

MR. BENNETT: Well, this one says FERC PDF, but it does say: Unofficial, 12-21-2012. Anyway.

Under water resources, 4.3.2, second bullet point. This is where I was instructed to wait until the end and bring it up. The second bullet point: Effects of project operations on water quality, particularly dissolved oxygen and temperature, and this is where I think that sediment should be the criterion to evaluate.

I had a question for the FERC folks. Under Terrestrial Resources, the first bullet talks about effects of project fluctuation in water level and flow releases from the projects. The second bullet talks about effects of project operation and maintenance activities on wildlife habitat and wildlife. It doesn't talk about the fluctuations specifically, and I didn't know whether that was an intentional omission or not.

MR. HOGAN: Project operations encompass fluctuations.

MR. BENNETT: Thank you. Under Terrestrial Resources, the further clarification, the third and fourth bullets: Effects of project O&M on riverbank integrity and effects of the frequency, timing, amplitude and duration of reservoir fluctuations. Is there a distinction between the

two, or -- and I think Ken just answered that amplitude and duration of fluctuations is all part of O&M. Thank you.

Under Recreation bullet number two: Effects of project operations on quality and availability of flow-dependent and water level-dependent recreation opportunities including boating. Also including the impacts. I want to be clear that it should include the impacts, not just in the impoundment but also the bypass reach.

MR. HOGAN: Where are you?

MR. BENNETT: Recreation, 4.3.6, second bullet point.

MR. HOGAN: Thank you.

MR. BENNETT: The effects on quality and availability of recreation. Do you include the bypass reach in that also? And to sort of reiterate other folks' comments, that should also include not just boating, but fishing and also just to -- the water level dependent stuff really does include the boat ramps, just point of emphasis.

Under Land Use, and I stick with my notes and not go off on what I was thinking about tonight, the second bullet talks about adequacy of shoreline buffers to achieve project purposes in compliance with local and state requirements.

The shoreline buffers have been decreasing for 20 years as the riverbanks have receded or moved inland. So I

think the adequacy has been decreasing from whatever perspective you're looking at it. But I want to sort of make that clear that we think that's a concern that you all ought to be taking a look at. Where there used to be 20 feet of trees at the edge of a field, now there's 2 feet or no feet of trees left, and the field is now at the top of the riverbank; and that's not because the field's been cleared further. Actually, you can check the plow ruts and they've been moving back away from the river, because the farmers don't want to lose their equipment down the banks.

FERC: A question for you.

MR. BENNETT: Yes, sir?

FERC: Do you believe that we should look into the adequacy of the shoreline buffers? We really don't have an issue. I'm asking.

MR. BENNETT: I don't think so, as long as -- well, to achieve project purposes in compliance with local and state requirements, that can be parsed very finely.

FERC: That's what I'm trying to get at; which part of our bullet is your concern? You'd rather shorten the bullet to 'the adequacy of shoreline buffers'?

MR. BENNETT: Bingo. Thank you.

Thank you for helping me sort through.

&FERC: Well, I want to make sure I understand.

MR. BENNETT: I will try to elaborate better in

writing, but you never know, I might get hit by a bus or something, so.

Under 4.3.8, Aesthetic Resources: At this time we've not identified any aesthetic resource issues. I would beg to differ. The raw, eroded banks as distinct from the intact and vegetated banks elsewhere on the river I think is an aesthetic impacted. Dead and dying trees I think are a negative aesthetic impact. The mud flats that you see at low tide, I think, are a negative aesthetic in a riverine environment.

Socioeconomic resources. Haven't identified any socioeconomic resource issues. I think that if the farmers that are trying to farm on the edge of the river were here, the would say that the loss of agricultural land is in fact a socioeconomic loss. Look at the farmer Kendall site up in Vernon that lost 900 feet long by 60-plus feet deep of field. That's a significant loss.

And I don't know whether there's socioeconomic value to the recreational opportunities that are available, could be available, but I think that that's worth examining.

Cultural Resources, effects of the project on historic, et cetera sites. Sites may be eligible for inclusion in the National Register of Historic Places. I think it's a broader, there are broader values than that in terms of, I don't know about eligibility for inclusion in

National Register of Historic Places, but I do know that when we've been working on bank restoration projects there have been numerous archaeological studies and there have been determinations that you couldn't have an access point here because there were artifacts that might be disturbed, and I do not know whether that makes that site eligible for inclusion in the National Register of Historic Places or not; but the potential loss of the site is something that should be evaluated.

And I guess that's my quick summary of my questions or observations on the scoping document. I had a couple of notes about the PAD; I'll be brief. Not that the document is brief, but two things that I thought should be brought up.

In Section 3.4.1, Current License Requirements, on page 3-27. Following is a description of key license requirements for Turners and Northfield, and we start with Article 30. But there are very important license articles earlier than 30; in particular Articles 19 and 20 that pertain to erosion on the riverbanks.

And a sort of final note: Section 4.4.1, Field Studies gets to the 1999 Erosion Control Plan on page 4-11. It talks about erosion control plan being implemented in cooperation with streambank erosion committee, and that the erosion control plan requires the licensee to periodically

repeat classification and prioritization process at three to five year intervals; and we've had some difficulties with replicable classification endeavors over the last four iterations of the full river reconnaissance. And we haven't had much progress on the prioritization process, the original ECP actually included a list of over 100 sites. You've got it condensed down to the top 20, and that's all we've been focusing on, and there hasn't been any moving up of lower sites.

The next underlined heading is actually the Full River Reconnaissance studies, and we just would note that it concludes that the 2008 report concluded that "The rate of erosion in the Turners Falls impoundment is decreasing." And that I think is subject to question, that a lot of people don't think that's the case. And that in fact the erosion committee has been engaged in lengthy efforts to correct that misimpression. Thank you.

(Applause)

SPEAKER: Can I make a short comment?

MR. HOGAN: Sure. Go on up.

SPEAKER: I just thought of something, I was just -- of course, my own personal interest, but: Can FirstLight tell us when they're changing the water levels prior to them doing that?

I suppose the downside of that is because it's a

competitive spot market they don't want to show their cards to someone else who wants to sell electricity to the same area. But it would make a big difference and I think a lot of people's lives if we knew when the water was going to go up or down nine feet on the top side or five feet on the other side of the river.

MR. HOGAN: Can I get your name?

MR. McCOOL: Oh, Don McCool.

MR. HOGAN: I had the last name, but I wasn't sure of the first name; so thank you.

So you would like to see some type of --

MR. McCOOL: Well, they have a website -- we talked about kind of technology. We can probably just go in and see if -- if I have an opportunity to go on the water at 6 in the morning or I have an opportunity to go on the water at noon on a particular day, it would be just fantastic to know that the water would be deep enough to row a boat that draws 6 inches of draft.

MR. HOGAN: Do you have interest in real-time versus advance notice?

MR. McCOOL: Oh, the day of. I know they can't do day before. Just a couple of hours, perhaps. Three hours, four hours, six hours? The more the better. I know they're restricted; but I just think that perhaps someone could look at that. I think it would help everybody. You

know, the guys at the Rod and Gun Club would get their boats in for the weekend; they find them abandoned and -- Sunday afternoon they can't get them out.

Whatever the issues are, it would be nice to know before it happens. Before it happens; you can look at that, too.

MR. HOGAN: Thank you, Don.

Stefanie?

MS. KRUG: I had a comment on what Don was saying.

I know that on the (inaudible) River, there were a series of five or dams that are being released, and I don't know how their schedule is, but I know they have a website where they communicate their releases. I don't know how sophisticated they are with actually communicating with them, but --. Things like this are in place, other things affecting flow of rivers in this area.

MR. McCOOL: There are a lot of guys who go out with these small boats from Sunderland, which is one of the few ramps on that side; and they'll find themselves without water in the afternoon or night, whatever.

I think I recall maybe within the last ten years somebody actually drowned south of Cabot when the water was released; and it would be a huge safety concern to know that somebody was going to wade out in hip boots and fish, to

know that the water is going to be coming up five feet in about one minute, and it's going to have a real crest. Maybe somebody can look into that. I don't recall, but I remember somebody drowning out there not that long ago.

MR. HOGAN: My understanding is that at FERC projects, there's usually sirens and alarms that give you a lot more than one minute of notice, John, if you want to --

MR. McCOOL: Is there a siren anywhere around?

AUDIENCE: Yes.

MR. McCOOL: Where?

(Simultaneous audience discussion)

MR. HOGAN: John, can we speak up?

MR. HOWARD: There's a (inaudible)

MR. HOGAN: Do you know how much advanced notice it gives?

SPEAKER: No, I don't know off the top of my head.

MR. HOGAN: Any other quick comments before we wrap it up for the evening?

Okay. You guys are die hards.

(Laughter)

I want to thank everybody for being here tonight. It really does help us provide you all a better product. So pat yourselves on the back. Thank you for coming, and we'll be in touch and we'll see you in the coming weeks.

Thank you very much, everybody.

(Applause)

(Whereupon, at 10:05 p.m., the scoping meeting concluded.)

Document Content(s)